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NFPA AN ECONOMICS BULLETIN OF THE FOREST PRODUCTS INDUSTRY

ECONOMICS MONTHLY

Volume II Number 8 August 1986

HOUSE-SENATE CONFERENCE WRAPS UP TAX REFORM

The most significant economic news out of Washington this month is the near completion of work on tax overhaul. House and Senate conferees reached final agreement on major changes to the tax code just before adjourning for the August recess. The tax bill, if enacted into law as expected, will have far-reaching implications for all sectors of the economy, including the forest-based industries.

The forest industry lobbied hard to retain certain provisions of the existing code, including capital gains treatment of timber for all landowners (individual and corporate), expensing of forest management costs, as well as the preservation of adequate capital formation incentives for investment in plant and equipment. It also sought to change the proposed method for calculating income under the corporate minimum tax provisions.

Repealing the investment tax credit was an early target for raising revenues from the corporate sector. It will be eliminated, except for certain business energy tax credits, and a reforestation tax credit for the first $10,000 invested each year. The final compromise between the House and Senate conferees eliminated the differential treatment of capital gains, although the concept of capital gains remains in the code. Attempts by numerous industries to modify the minimum tax proposal were largely unsuccessful. The forest industry succeeded in retaining current law provisions which allow expensing of forest management.

What will the new tax code mean for the forest industry? First, it will alter the net asset value of timber and timberland to reflect before-tax profit potential. It will also alter the economics of on-going forest management, as some investments will no longer show a positive after-tax return. This could lead to changes in timber ownership if some owners decide long-term prospects for profit from timber investments are nonexistent or sufficiently uncertain.

Second, the types of capital improvements in plant and equipment may change. Elimination of the investment tax credit and longer depreciation means that the pay-back on capital investments has to be greater than under current law in order to be economically justifiable. Companies will have to weigh capital investments carefully and may opt to forego some investments altogether.

Finally, the new code will undoubtedly lead to dramatic changes in accounting and valuation methods. The full impact will not be known for some time, but they are likely to affect the accounting procedures on internal transactions of integrated companies, as well as the bookkeeping requirements of all companies.

MONTHLY STATISTICAL HIGHLIGHTS

The Federal Reserve lowered the discount rate to 5.5 percent in August, the lowest it has been since 1977.

The value of U.S. exports of all wood products was up 7.9 percent during the first half of 1986. Leading the export performers was softwood plywood, up 61.6 percent in value.

U.S. consumption of softwood lumber during the first half of 1986 set a new record, outpacing last year's level by 7.8 percent.

Employment in the lumber and wood products industry during June was 1.7 percent higher than June, 1985.

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ECONOMY WATCH

Also out of Washington this month comes news of further declines in interest rates. With growth in the GNP during the second quarter at a low 0.6 percent, and citing the burgeoning trade deficit, the Federal Reserve lowered its discount rate to 5.5 percent. This bodes well for housing despite some declines in starts during the past two months. During the first six months of the year, new housing averaged an annual rate of approximately 1.95 million units. Single-family starts were up 15 percent over 1985. Mortgage interest rates have declined below 10 percent in many parts of the country for the first time this decade. But few forecasters are willing to be outwardly optimistic about the economy in general over the next several months without evidence that the budget deficit and trade imbalance can be reduced.

MARKET FOCUS -- PARTICLEBOARD AND MDF

One segment of the wood products industry which has benefited from the increase in housing starts, and the boom in remodeling and furnishing, is the particleboard and medium density fiberboard (MDF) industry. This month, we take a closer look at these pressed wood products.

Some Background

Particleboard and MDF are manufactured from wood residues in a process that uses synthetic adhesives as a bonding agent under heat and pressure. Planer shavings, sawdust and other "waste" from wood products manufacture provide the basic material. Particleboard and MDF plants use on average 1.5 tons of wood raw material for each 1,000 square feet of finished board. Because residue materials are used, the result is not only lower cost engineered wood products, but also more complete utilization of forest resources.

Over 90 percent of the U.S. particleboard industry and virtually all the MDF industry uses a mat-formed manufacturing process. In this process, resin-coated wood particles are formed into mats which are moved horizontally into a heated press consisting of one or more heavy metal compression plates. The specific size and species of wood particles, the amount and composition of the adhesives, the heat and pressure applied, and the thickness of the panel are largely determined by the end-use of the product.

Particleboard is used as underlayment for floor systems in conventional housing, floor decking in manufactured homes, and as components for furniture, fixtures and cabinets. Particleboard used in decking must have increased strength and dimensional properties, while particleboard used in the furniture industry typically is more finely textured and smoother surfaced. This category of particleboard usage accounts for 63 percent of total consumption (Figure 1).

Medium density fiberboard differs from particleboard in the geometry of the wood particle utilized. To manufacture MDF, wood particles are "cooked" under pressurized steam and then mechanically separated into individual wood fibers. MDF has a more homogeneous texture and color and an edge that can be machined and shaped. These qualities make MDF a popular product with furniture manufacturers. The lion's share of MDF, 95 percent, is consumed in the furniture, fixtures, and cabinet industries, the balance

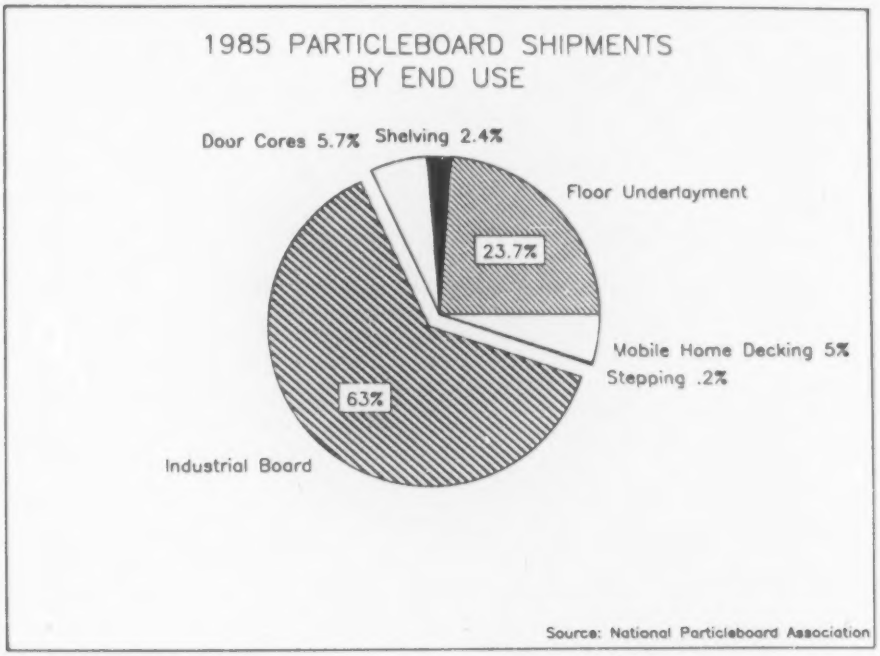

Figure 1:
Almost two thirds of particleboard shipped is industrial board, used primarily in furniture and cabinet manufacture.

used in doors and other miscellaneous applications.

Industry Structure

From a production level of less than 300 million square feet in 1960, particleboard shipments peaked at 3.7 billion square feet in 1978 and have averaged 3.1 billion square feet per year since then. Table I details production and price trends of particleboard and MDF since 1960. Value of product shipments in 1985 were estimated to be $676 million for particleboard and $243 million for MDF.

The National Particleboard Association reports that there are 46 particleboard plants in 18 states operated by 29 companies, and 15 MDF plants operated in 12 states operated by 11 companies. In 1985, six companies operated both particleboard and MDF plants. The industry is concentrated; the top five producers account for approximately half of total U.S. production. Average plant capacity is currently estimated to be 83 million square feet for particleboard, 65 million square feet for MDF. The particleboard industry capacity has been steady since the mid 1970s, but another 135 million square feet of capacity will start up in the next year. (Figure 2.)

In contrast, MDF production has been increasing steadily with four plant start-ups since 1983, and three more coming on in the next year. (Figure 3.) Average annual output of MDF has increased more than three times since 1975. New plants and expansions planned through 1987 will increase total U.S. MDF capacity by 25 percent over 1985 levels.

Shipments as a percentage of annual capacity for both products have ranged between 60 and 90 percent since 1966 with the majority of those years averaging between 70 and 82 percent. Capacity utilization during

SHIPMENTS/PRODUCTION, VALUE OF SHIPMENTS, AND AVERAGE MILL PRICE
PARTICLEBOARD AND MDF

	Production/Shipments (Thous. Square Feet, 3/4")					Value of Shipments ($ Million)		Average Price FOB Mill ($/MSF)	
	Particleboard				MDF				
	TOTAL Particle-Board	Underlay-ment	Industrial	Mobile Home Decking		Particle-Board	MDF	Particle-Board	MDF
1970	1,731,451	596,427				159.4		96	
1971	2,359,221	753,411				206.3		90	
1972	3,079,123	941,353				284.9		94	
1973	3,460,450	890,935	2,107,532	461,983		389.4		114	
1974	3,074,535	901,353	1,859,624	313,558		347.4		116	
1975	2,502,580	784,007	1,492,032	226,541	215,496	272.6	31.4	108	177
1976	3,188,911	1,092,321	1,535,713	276,998	280,036	364.9	54.4	115	195
1977	3,569,451	1,096,564	1,825,460	289,154	441,354	484.9	84.9	136	205
1978	3,720,369	1,148,858	1,829,745	274,139	508,416	818.4	114.9	220	226
1979	3,376,488	1,103,995	1,674,906	264,649	506,728	574.8	136.7	170	270
1980	2,949,897	885,759	1,501,746	223,430	493,140	531.1	145.2	180	294
1981	2,869,352	780,487	1,531,309	218,476	516,102	536.6	175.4	187	340
1982	2,393,066	653,728	1,306,651	176,997	446,157	469.2	144.8	196	324
1983	3,009,343	797,697	1,730,329	190,157	604,323	607.0	198.0	202	328
1984	3,195,586	729,679	1,943,442	157,553	634,974	697.4	216.5	218	341
1985	3,330,517	756,772	2,015,544	159,213	684,593	675.9	242.5	203	354
1986 (E)									

Note: 1970 - 1977 data represent production figures; shipments figures are reported after 1978.

Source: National Particleboard Association

Table I: Particleboard shipments have stabilized at around 3.2 billion square feet; MDF shipments are on the rise.

the first six months of 1986 was reported by NPA to be over 90 percent.

The combined particleboard/MDF industry employed about 6,200 in 1982. Total wages were $112.7 million. Wage rates appear to be higher in the particleboard industry than in other wood products sectors. Average employee earnings in 1982 were $18,177, compared to $15,316 earned by sawmill and planing mill employees.

Most of the currently operating particleboard mills are over 15 years old. The average age of the MDF mills is less than 10 years old.

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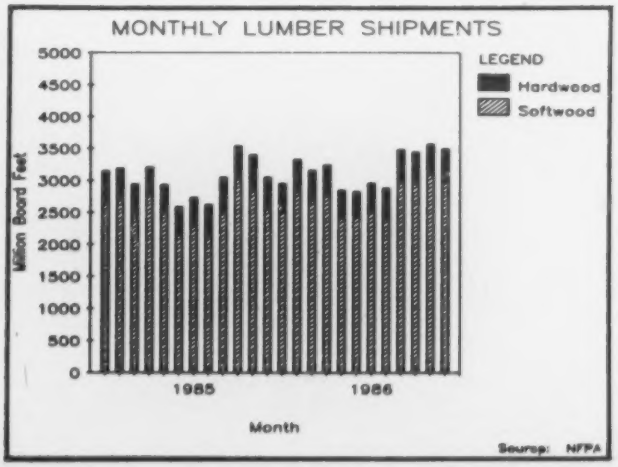
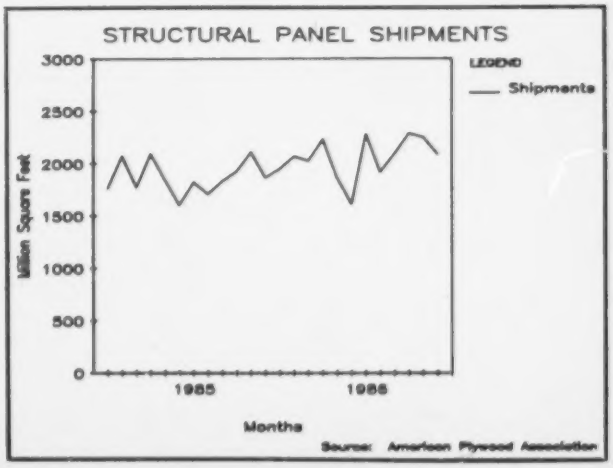
ESTIMATED INDUSTRY TOTALS BY PRODUCING REGION

	JUNE 1986			JUNE 30, 1986	
	Production	Shipments	Orders Received	Unfilled Orders	Gross Stocks
SOFTWOOD LUMBER		(Million Board Feet)			
Southern Pine Region	955	982	1031	620	1,866
Douglas Fir Region	684	746	702	452	813
Western Pine Region	891	943	935	457	1,260
California Redwood Region	162	170	173	118	376
Other Softwoods	138	145	145	238	290
TOTAL SOFTWOODS	2,830	2,986	2,986	1,885	4,605
% Change - May 1986	-4.2%	-3.6%	3.5%	0.0%	-3.3%
% Change - June 1985	8.6%	16.5%	26.4%	-3.5%	-0.6%
HARDWOOD LUMBER					
Southern Hardwood Region	228	223	222	273	874
Appalachian Hardwood Reg.	90	87	82	*	*
Other Hardwoods	207	202	198	198	882
TOTAL HARDWOODS	525	512	502	471	1,756
% Change - May 1986	8.9%	8.2%	3.1%	-2.1%	0.7%
% Change - June 1985	1.0%	4.1%	9.6%	23.0%	8.1%
TOTAL LUMBER	3,355	3,498	3,488	2,356	6,361
% Change - May 1986	-2.4%	-2.0%	3.4%	-0.4%	-2.2%
% Change - June 1985	7.3%	14.5%	23.7%	0.9%	2.9%
* Included in Other Hardwoods					
FLOORING		(Thousand Feet)			
Oak Flooring (Bd. Ft.)	NA	11,810	NA	8,772	4,697
Maple Flooring (Sq. Ft.)	1,073	1,236	1,626	4,296	2,438
STRUCTURAL PANELS	2,027,957	2,082,907	2,221,414	828,244	426,000
% Change - May 1986	-9.3%	-7.3%	7.5%	91.5%	4.2%
% Change - June 1985	8.6%	12.0%	15.7%	57.0%	28.6%





YEAR-TO-DATE INDICATORS

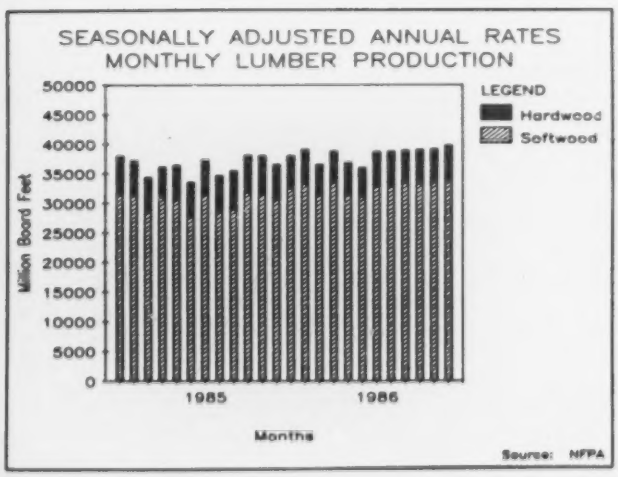
	PRODUCTION		SHIPMENTS		ORDERS RECEIVED	
	Latest Period Available	% Change	Latest Period Available	% Change	Latest Period Available	% Change
	6 mos.'86	6 mos.'85	6 mos.'86	6 mos.'85	6 mos.'86	6 mos.'85
	(Million Board Feet)					
TOTAL LUMBER	19,770	6.7%	19,847	7.8%	19,919	7.8%
TOTAL SOFTWOOD	16,852	9.1%	16,977	10.2%	16,971	9.6%
TOTAL HARDWOOD	2,918	-5.1%	2,870	-4.6%	2,948	-1.7%
	(Million Square Feet)					
STRUCTURAL PANELS	12,950	14.1%	12,890	14.7%	12,789	12.9%

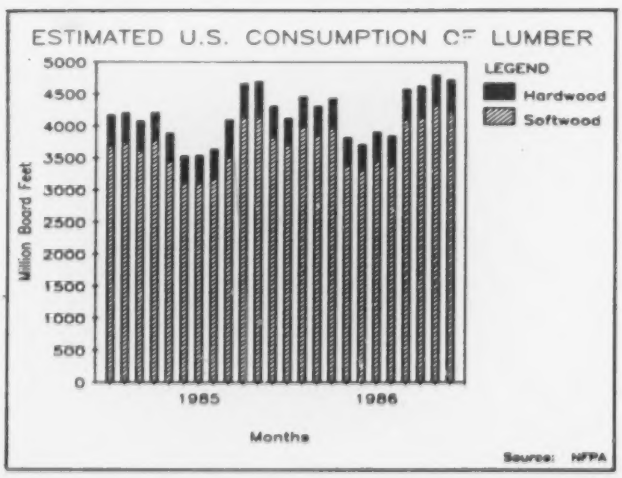
SEASONALLY ADJUSTED ANNUAL RATES

	PRODUCTION			SHIPMENTS		
		---% Change From--			---% Change From--	
LUMBER REGION	June '86	May '86	June '85	June '86	May '86	June '85
	(Million Board Feet)			(Million Board Feet)		
Southern Pine	11,099	5.2%	6.3%	11,059	8.8%	19.2%
Douglas Fir	8,277	-14.1%	6.9%	8,622	-11.7%	22.1%
Western Pine	10,859	11.2%	17.6%	10,849	5.3%	18.9%
Calif. Redwood	1,881	0.1%	12.4%	1,788	-19.4%	-3.8%
Other Softwoods	1,629	-0.3%	8.6%	1,676	0.2%	18.5%
TOTAL SOFTWOODS	33,745	0.8%	10.3%	33,994	-0.4%	18.3%
TOTAL HARDWOODS	6,040	5.9%	0.1%	5,939	9.0%	-3.4%
TOTAL LUMBER	39,786	1.6%	8.7%	39,933	0.9%	14.5%

DOMESTIC LUMBER CONSUMPTION

	CURRENT			YEAR-TO-DATE	
	Latest Month Available	----% Change From----		Latest Period Available	% Change From
	June '86	May '86	June '85	6 mos.'86	6 mos.'85
	(Million Board Feet)				
Total Consumption	4,727	-1.6%	9.5%	26,498	6.1%
Softwood Consumption	4,230	-2.3%	10.7%	23,675	7.8%
Hardwood Consumption	497	4.9%	0.4%	2,823	-6.3%





05/02/86 TABLE 1

ESTIMATED TOTAL REGIONAL LUMBER PRODUCTION, SHIPMENTS, AND NEW ORDERS

(MILLION BOARD FEET)

	SOUTHERN PINE	DOUGLAS FIR	WESTERN PINE	CALIFORNIA REDWOOD	OTHER SOFTWOOD	TOTAL SOFTWOOD	SOUTHERN HARDWOOD	APPALACHIAN HARDWOOD	OTHER HARDWOOD	TOTAL HARDWOOD	TOTAL LUMBER
PRODUCTION											
1976	7,893	8,322	9,789	2,001	1,688	29,693	3,037	1,173	2,217	6,427	36,120
1977	8,879	8,796	10,309	2,000	1,753	31,737	3,073	1,241	2,917	7,701	39,438
1978	9,231	8,845	10,033	1,902	2,046	32,057	3,258	1,233	2,540	7,031	39,088
1979	9,283	8,427	9,780	1,818	2,124	31,432	3,462	1,263	2,589	7,314	38,746
1980	8,217	6,815	7,613	1,589	2,012	26,246	3,341	1,221	2,553	7,115	33,361
1981	8,415	6,270	7,147	1,452	1,392	24,676	3,374	1,237	1,641	6,252	30,928
1982	8,754	5,743	6,681	1,300	1,309	23,787	2,061	602	2,398	5,062	28,849
1983	10,181	7,934	8,488	1,580	1,543	29,726	2,245	785	2,614	5,644	35,370
1984*											
1ST QUARTER	2,620	2,337	2,252	435	391	8,035	645	267	611	1,523	9,558
2ND QUARTER	2,787	2,264	2,429	444	404	8,328	651	297	636	1,584	9,912
3RD QUARTER	2,692	1,985	2,213	407	373	7,670	697	241	630	1,568	9,238
4TH QUARTER	2,575	1,743	2,098	378	347	7,141	649	180	555	1,384	8,525
TOTAL YEAR	10,674	8,329	8,992	1,664	1,515	31,174	2,642	985	2,432	6,059	37,233
1985*											
1ST QUARTER	2,485	1,970	2,009	448	353	7,255	635	248	576	1,459	8,724
2ND QUARTER	2,914	2,016	2,405	451	398	8,184	700	279	637	1,616	9,800
3RD QUARTER	2,735	2,039	2,539	445	396	8,154	657	218	569	1,444	9,598
4TH QUARTER	2,528	2,037	2,323	386	372	7,646	635	159	518	1,312	8,958
TOTAL YEAR	10,662	8,062	9,276	1,730	1,519	31,249	2,628	904	2,300	5,831	37,080
1986*											
1ST QUARTER	2,710	2,196	2,329	443	392	8,070	715	141	558	1,414	9,484
2ND QUARTER	2,913	2,291	2,640	510	428	8,782	691	220	593	1,504	10,286
3RD QUARTER											
4TH QUARTER											
TOTAL YEAR	5,623	4,487	4,969	953	820	16,852	1,406	361	1,151	2,918	19,770
SHIPMENTS											
1976	7,782	8,293	9,744	2,044	1,679	29,542	3,032	1,171	2,214	6,417	35,959
1977	8,932	8,781	10,295	2,075	1,759	31,842	3,114	1,225	2,450	6,789	38,631
1978	9,226	8,906	10,067	1,884	2,051	32,134	3,248	1,230	2,530	7,008	39,142
1979	9,255	8,412	9,696	1,760	2,111	31,234	3,326	1,216	2,487	7,029	38,263
1980	8,018	6,821	7,807	1,590	2,012	26,248	3,119	1,142	2,387	6,648	32,896
1981	8,388	6,270	7,183	1,501	1,395	24,737	3,313	1,082	1,602	6,097	30,834
1982	8,464	5,795	6,775	1,349	1,303	23,684	2,427	634	2,488	5,249	28,933
1983	10,214	7,802	8,264	1,582	1,528	29,390	2,342	829	2,708	5,849	35,239
1984*											
1ST QUARTER	2,527	2,196	2,126	421	372	7,642	643	265	609	1,517	9,159
2ND QUARTER	2,780	2,263	2,395	440	402	8,280	639	289	622	1,550	9,830
3RD QUARTER	2,718	2,038	2,284	415	381	7,836	654	219	585	1,458	9,294
4TH QUARTER	2,549	1,902	2,209	397	361	7,428	619	167	526	1,312	8,740
TOTAL YEAR	10,574	8,409	9,014	1,673	1,516	31,186	2,555	940	2,342	5,837	37,023
1985*											
1ST QUARTER	2,418	1,914	1,914	381	338	6,965	633	245	573	1,451	8,416
2ND QUARTER	2,972	2,131	2,441	492	411	8,447	677	266	633	1,576	10,023
3RD QUARTER	2,705	2,003	2,546	433	393	8,080	628	201	541	1,370	9,450
4TH QUARTER	2,512	2,009	2,320	389	371	7,601	631	157	519	1,307	8,908
TOTAL YEAR	10,607	8,057	9,221	1,695	1,513	31,113	2,569	869	2,241	5,679	36,792
1986*											
1ST QUARTER	2,720	2,174	2,282	337	386	7,939	704	138	568	1,390	9,329
2ND QUARTER	2,900	2,399	2,539	560	440	9,038	681	215	584	1,480	10,518
3RD QUARTER											
4TH QUARTER											
TOTAL YEAR	5,620	4,573	5,021	937	826	16,977	1,385	353	1,152	2,870	19,847
NEW ORDERS											
1976	7,779	8,333	9,760	2,067	1,683	29,670	3,015	1,165	2,200	6,380	36,050
1977	8,970	8,712	10,331	2,119	1,762	31,894	3,163	1,244	2,488	6,895	38,789
1978	9,273	8,894	9,946	1,847	2,043	32,003	3,288	1,239	2,360	7,087	39,090
1979	9,273	8,388	9,630	1,664	2,098	31,053	3,290	1,184	2,429	6,863	37,916
1980	7,964	6,791	7,730	1,563	1,996	26,044	3,060	1,118	2,338	6,516	32,560
1981	8,433	6,200	7,076	1,501	1,387	24,597	3,341	1,198	1,617	6,156	30,753
1982	8,510	5,976	6,880	1,388	1,325	24,079	2,123	650	2,495	5,268	29,335
1983	10,417	7,864	8,350	1,573	1,544	29,748	2,344	834	2,741	5,919	35,667
1984*											
1ST QUARTER	2,426	2,346	2,173	401	375	7,721	679	277	640	1,596	9,317
2ND QUARTER	2,752	2,072	2,311	397	385	7,917	585	285	584	1,454	9,371
3RD QUARTER	2,694	2,055	2,325	426	383	7,883	631	212	566	1,409	9,292
4TH QUARTER	2,470	1,823	2,202	416	353	7,264	629	170	536	1,335	8,599
TOTAL YEAR	10,342	8,296	9,011	1,640	1,496	30,785	2,524	944	2,326	5,794	36,579
1985*											
1ST QUARTER	2,372	1,935	1,920	391	338	6,956	659	246	589	1,494	8,450
2ND QUARTER	2,982	2,105	2,528	502	415	8,532	653	258	593	1,504	10,036
3RD QUARTER	2,797	2,012	2,506	394	394	8,103	638	207	550	1,395	9,498
4TH QUARTER	2,490	1,992	2,293	395	366	7,536	624	156	507	1,287	8,823
TOTAL YEAR	10,641	8,044	9,247	1,682	1,513	31,127	2,574	867	2,239	5,680	36,807
1986*											
1ST QUARTER	2,805	2,291	2,403	431	405	8,335	757	146	587	1,490	9,825
2ND QUARTER	2,840	2,206	2,642	529	419	8,636	674	209	575	1,458	10,094
3RD QUARTER											
4TH QUARTER											
TOTAL YEAR	5,645	4,497	5,045	960	824	16,971	1,431	355	1,162	2,948	19,919

* SUBJECT TO REVISION.

SOURCE: NATIONAL FOREST PRODUCTS ASSOCIATION

NOTE: DETAILS MAY NOT ADD TO TOTALS DUE TO ROUNDING.

09/02/86

TABLE 2

ESTIMATED REGIONAL SOURCES OF DOMESTIC CONSUMPTION OF LUMBER (NET IMPORTS ALLOCATED)

(MILLION BOARD FEET)

	SOUTHERN PINE	DOUGLAS FIR	WESTERN PINE	CALIFORNIA REDWOOD	OTHER SOFTWOOD	TOTAL SOFTWOOD	SOUTHERN HARDWOOD	OTHER** HARDWOOD	TOTAL HARDWOOD	TOTAL LUMBER
1976	7,641	12,069	10,820	1,981	3,575	36,086	3,054	3,387	6,441	42,527
1977	8,774	14,081	11,626	2,026	4,302	40,809	3,158	3,732	6,890	47,699
1978	9,096	15,133	11,559	1,849	5,003	42,640	3,242	3,755	6,997	49,637
1979	9,060	14,248	10,553	1,729	5,018	40,608	3,342	3,597	6,939	47,547
1980	7,757	11,461	8,509	1,563	4,542	33,832	3,028	3,244	6,272	40,104
1981	8,177	10,828	7,760	1,463	3,836	32,064	3,202	2,653	5,855	37,919
1982	8,232	10,381	7,316	1,327	3,917	31,173	2,031	3,066	5,098	36,270
1983	10,233	14,108	8,848	1,558	4,995	39,742	2,121	3,276	5,397	45,138
1984*										
1ST QUARTER	2,488	3,854	2,284	416	1,308	10,350	621	837	1,458	11,808
2ND QUARTER	2,727	3,965	2,564	425	1,405	11,085	610	895	1,505	12,590
3RD QUARTER	2,682	4,070	2,430	410	1,466	11,058	628	775	1,403	12,461
4TH QUARTER	2,505	3,782	2,329	393	1,355	10,363	600	673	1,272	11,636
TOTAL YEAR	10,402	15,672	9,606	1,643	5,534	42,857	2,459	3,179	5,638	48,495
1985*										
1ST QUARTER	2,381	3,747	2,017	378	1,310	9,832	631	823	1,454	11,286
2ND QUARTER	2,928	4,462	2,601	488	1,651	12,130	672	886	1,559	13,689
3RD QUARTER	2,665	4,240	2,684	479	1,534	11,554	618	732	1,350	12,903
4TH QUARTER	2,469	3,944	2,446	384	1,448	10,690	613	665	1,278	11,968
TOTAL YEAR	10,443	16,393	9,748	1,679	5,942	44,206	2,534	3,106	5,640	49,846
1986*										
1ST QUARTER	2,678	4,079	2,362	374	1,473	10,966	690	682	1,373	12,339
2ND QUARTER	2,850	4,733	2,837	558	1,731	12,709	657	793	1,450	14,159
3RD QUARTER										
4TH QUARTER										
TOTAL YEAR	5,528	8,813	5,199	932	3,204	23,675	1,347	1,476	2,823	26,498

* SUBJECT TO REVISION

** INCLUDES APPALACHIAN HARDWOOD AND ALL OTHERS.

SOURCE: NATIONAL FOREST PRODUCTS ASSOCIATION

NOTE: DETAILS MAY NOT ADD TO TOTALS DUE TO ROUNDING.

09/02/86

TABLE 3

IMPORTS OF LUMBER \1

(MILLION BOARD FEET)

	SOFTWOODS											
	DOUGLAS FIR	OTHER FIR	HEMLOCK	SPRUCE	PINE	CEDAR	OTHER	SPECIAL \2 PRODUCTS	TOTAL SOFTWOOD	TOTAL \3 HARDWOOD	RAILROAD TIES (SAWED)	TOTAL LUMBER
1976	744.2	91.3	1,083.8	4,116.0	1,305.4	480.2	8.7	121.2	7,950.8	228.3	8.2	8,187.3
1977	990.7	299.4	1,219.2	5,361.6	1,795.5	537.7	22.2	154.0	10,380.3	341.1	7.4	10,728.8
1978	976.2	508.9	1,219.8	6,312.9	1,916.9	657.5	41.8	190.6	11,824.6	361.4	12.3	12,198.3
1979	827.3	588.3	912.3	6,740.4	1,182.5	637.8	35.4	193.7	11,117.7	376.2	29.3	11,523.2
1980	559.0	440.8	627.8	6,167.9	1,023.9	543.4	20.7	156.6	9,540.1	293.2	31.3	9,864.6
1981	483.3	534.7	467.0	6,010.7	941.7	574.4	17.0	175.9	9,204.7	291.1	24.9	9,520.7
1982	504.3	460.7	293.9	6,341.2	801.6	539.0	28.8	149.4	9,118.9	211.0	26.2	9,356.0
1983	600.3	708.6	416.7	8,354.4	919.8	664.1	73.5	239.9	11,977.4	260.5	12.5	12,250.4
1984												
1ST QUARTER	140.1	151.1	135.0	2,152.8	240.7	190.9	9.4	75.6	3,095.6	85.7	3.1	3,184.4
2ND QUARTER	137.1	168.6	96.8	2,390.5	251.8	136.3	9.0	59.3	3,249.4	87.1	6.6	3,343.1
3RD QUARTER	147.5	264.4	140.5	2,551.2	225.8	200.9	8.9	72.8	3,612.0	73.9	8.0	3,693.9
4TH QUARTER	178.2	181.0	142.6	2,377.0	183.4	176.1	7.7	67.3	3,313.2	81.0	6.5	3,400.7
TOTAL YEAR	603.0	765.1	514.9	9,471.4	901.6	704.1	35.0	275.0	13,270.2	327.7	24.2	13,622.2
1985												
1ST QUARTER	154.6	189.1	171.1	2,257.0	165.8	210.2	26.9	66.9	3,241.6	105.9	3.2	3,350.7
2ND QUARTER	205.9	200.0	185.6	2,907.4	237.8	233.3	10.2	89.2	4,069.3	96.1	11.8	4,177.2
3RD QUARTER	247.4	236.0	151.0	2,685.4	215.0	203.7	14.0	89.3	3,841.8	85.3	7.7	3,934.8
4TH QUARTER	157.1	166.8	136.2	2,543.6	198.6	160.7	16.0	76.1	3,455.1	76.3	5.1	3,536.4
TOTAL YEAR	765.1	791.8	643.9	10,393.4	817.2	807.9	67.1	321.5	14,607.8	363.6	27.7	14,999.1
1986												
1ST QUARTER	157.2	166.5	128.4	2,571.0	152.3	208.1	27.3	87.2	3,498.0	95.6	3.8	3,597.4
2ND QUARTER	179.1	238.0	154.9	2,957.5	180.3	269.8	30.4	119.1	4,129.1	88.9	10.0	4,228.0
3RD QUARTER												
4TH QUARTER												
TOTAL YEAR	336.3	404.5	283.3	5,528.5	332.6	478.0	57.7	206.2	7,627.2	184.5	13.7	7,825.4

EXPORTS OF LUMBER \1

(MILLION BOARD FEET)

	SOFTWOODS												
	DOUGLAS FIR	SOUTHERN PINE	PONDEROSA/ WHITE PINE	REDWOOD	HEMLOCK	SPRUCE	CEDAR	OTHER	SPECIAL \2 PRODUCTS	TOTAL SOFTWOOD	TOTAL \3 HARDWOOD	RAILROAD TIES \4 (SAWED)	TOTAL \5 LUMBER
1976	571.7	141.4	214.0	61.3	294.2	165.5	60.7	75.7	-----	1,586.5	225.5	30.9	1,840.9
1977	498.3	157.8	195.0	48.1	264.2	150.7	61.3	47.0	-----	1,422.4	226.1	19.2	1,667.7
1978	456.9	130.5	136.9	34.3	270.5	135.4	59.2	120.1	23.1	1,368.9	320.1	25.8	1,714.8
1979	505.4	145.1	147.7	30.1	463.7	151.1	56.0	179.4	18.2	1,744.7	326.6	90.5	2,161.8
1980	520.8	261.4	168.1	27.3	511.2	136.4	62.0	248.6	20.2	1,956.0	378.6	128.3	2,462.9
1981	509.0	211.2	203.8	37.7	390.2	141.4	68.9	280.6	16.8	1,877.6	405.7	88.8	2,372.1
1982	457.2	231.8	140.8	20.5	391.7	124.9	60.5	206.0	14.8	1,630.2	356.2	34.4	2,020.8
1983	559.3	208.4	197.3	24.0	376.2	113.9	46.8	207.8	10.8	1,744.5	478.0	47.2	2,269.9
1984													
1ST QUARTER	136.8	39.1	46.9	5.5	77.8	24.9	10.7	42.8	2.6	387.5	117.4	30.6	535.9
2ND QUARTER	159.3	53.5	45.0	15.1	81.8	19.8	10.1	36.0	3.8	444.2	126.3	9.4	582.9
3RD QUARTER	131.7	35.7	46.0	5.2	84.8	25.6	9.7	47.8	3.1	389.7	112.4	24.6	526.7
4TH QUARTER	104.3	44.1	36.3	4.4	93.1	23.7	8.7	36.1	3.3	353.9	107.4	19.7	505.0
TOTAL YEAR	532.1	152.4	174.1	30.1	337.4	98.1	39.2	202.7	13.1	1,599.3	466.5	84.6	2,150.4
1985													
1ST QUARTER	117.5	37.0	37.9	3.4	101.5	21.1	6.3	47.0	2.8	374.4	102.7	3.6	480.7
2ND QUARTER	130.4	44.4	42.1	3.8	83.2	17.2	7.0	55.2	2.8	385.9	97.3	7.7	490.9
3RD QUARTER	115.2	39.5	44.4	3.5	78.5	14.2	6.4	63.5	3.1	368.1	96.3	17.1	481.4
4TH QUARTER	114.4	43.5	43.4	3.0	101.5	8.4	7.8	61.0	1.9	387.0	100.8	4.5	492.3
TOTAL YEAR	475.6	164.4	167.7	13.7	364.4	60.8	27.4	228.7	10.6	1,515.4	397.1	32.9	1,945.3
1986													
1ST QUARTER	135.9	42.2	49.7	2.9	130.1	24.6	6.8	76.2	2.4	470.9	112.0	4.5	587.4
2ND QUARTER	130.1	50.3	54.9	2.1	121.0	23.2	7.8	66.0	2.4	457.9	122.8	6.0	586.7
3RD QUARTER													
4TH QUARTER													
TOTAL YEAR	266.0	92.4	104.6	5.1	251.1	47.8	14.6	142.3	4.8	928.8	234.8	10.5	1 174.1

1. Sawed timber, board planks and scantlings, flooring, box shook and railroad ties.
2. Includes siding and softwood lumber drilled or treated. Beginning 1978 includes siding and flooring. For exports, figures not availa prior to 1978.
3. Includes hardwood flooring, siding and hardwood lumber drilled or treated.
4. Includes a small amount of hewn railroad ties. Beginning with 1978 includes mine timber.
5. Includes box shook: 1973 - 4.4 mbf; 1974 - 6.1 mbf; 1975 - 4.1 mbf; 1976 - 6.0 mbf; 1977 - 5.8 mbf. Beginning with 1978 box shook is reported in appropriate species.

SOURCE: Foreign Agricultural Service, U.S. Department of Agriculture; Forest Products Division, BIE, U.S. DOC, from data of the Foreign Trade Division, Bureau of Census.

NOTE: DETAILS MAY NOT ADD TO TOTALS DUE TO ROUNDING.

09/02/86

TABLE 4

ESTIMATED GROSS MILL STOCKS OF LUMBER AND UNFILLED ORDERS FOR LUMBER BY REGION

(MILLION BOARD FEET)

	SOUTHERN PINE	DOUGLAS FIR	WESTERN PINE	CALIFORNIA REDWOOD	OTHER SOFTWOOD	TOTAL SOFTWOOD	SOUTHERN HARDWOOD	OTHER** HARDWOOD	TOTAL HARDWOOD	TOTAL LUMBER
GROSS MILL STOCKS										
DECEMBER 31ST										
1976	1,245	949	1,315	434	271	4,214	453	432	885	5,099
1977	1,192	964	1,329	359	265	4,109	412	385	797	4,906
1978	1,197	903	1,295	377	260	4,032	422	398	820	4,852
1979	1,225	918	1,379	435	273	4,230	558	547	1,105	5,335
1980	1,424	912	1,185	434	273	4,228	780	792	1,572	5,800
1981	1,451	912	1,149	385	270	4,167	841	886	1,727	5,894
1982	1,741	862	1,055	336	276	4,270	775	764	1,539	5,809
1983	1,708	994	1,279	334	291	4,606	708	626	1,334	5,940
1984*										
1ST QUARTER	1,801	1,135	1,405	348	310	4,999	710	633	1,345	6,225
2ND QUARTER	1,808	1,136	1,439	352	312	5,047	722	652	1,374	6,421
3RD QUARTER	1,782	1,083	1,368	344	304	4,881	765	719	1,484	6,365
4TH QUARTER	1,808	914	1,257	325	290	4,594	795	761	1,556	6,150
1985*										
1ST QUARTER	1,875	970	1,352	392	305	4,894	797	767	1,564	6,458
2ND QUARTER	1,817	855	1,316	351	292	4,631	820	804	1,624	6,255
3RD QUARTER	1,847	891	1,309	363	295	4,705	849	849	1,698	6,403
4TH QUARTER	1,863	899	1,312	360	296	4,730	853	855	1,708	6,438
1986*										
1ST QUARTER	1,853	921	1,359	426	302	4,861	864	868	1,732	6,593
2ND QUARTER	1,866	813	1,260	376	290	4,605	874	882	1,756	6,361
3RD QUARTER										
4TH QUARTER										
ESTIMATED UNFILLED ORDERS										
DECEMBER 31ST										
1976	450	634	554	227	264	2,129	243	157	400	2,529
1977	488	565	590	271	267	2,181	292	214	506	2,687
1978	535	553	469	234	259	2,050	332	253	585	2,635
1979	553	529	403	138	246	1,869	256	163	419	2,288
1980	499	499	326	111	230	1,665	197	90	287	1,952
1981	544	429	219	111	222	1,525	225	121	346	1,871
1982	590	612	324	150	244	1,920	221	144	365	2,285
1983	763	674	410	141	260	2,278	253	182	435	2,713
1984*										
1ST QUARTER	692	824	457	121	263	2,357	289	225	514	2,900
2ND QUARTER	664	633	373	78	246	1,994	235	183	418	2,487
3RD QUARTER	640	650	414	89	248	2,041	212	157	369	2,253
4TH QUARTER	561	561	407	108	240	1,877	222	170	392	2,453
1985*										
1ST QUARTER	515	582	413	118	240	1,868	248	187	435	2,303
2ND QUARTER	525	556	500	129	244	1,953	224	159	383	2,336
3RD QUARTER	617	565	460	89	245	1,976	234	174	408	2,384
4TH QUARTER	595	528	453	95	240	1,891	227	166	393	2,284
1986*										
1ST QUARTER	680	665	554	149	259	2,287	280	213	493	2,780
2ND QUARTER	620	452	457	118	238	1,885	273	198	471	2,356
3RD QUARTER										
4TH QUARTER										
UNFILLED ORDERS IN RELATION TO GROSS MILL STOCKS (Unfilled Orders as Percentage of Mill Stocks)										
1976	36%	67%	42%	52%	97%	51%	54%	36%	45%	50%
1977	41%	59%	44%	75%	101%	53%	71%	56%	63%	55%
1978	45%	61%	36%	62%	100%	51%	79%	64%	71%	54%
1979	45%	58%	29%	32%	90%	44%	46%	30%	38%	43%
1980	35%	55%	28%	26%	84%	39%	25%	11%	18%	34%
1981	37%	47%	19%	29%	82%	37%	27%	14%	20%	32%
1982	34%	71%	31%	45%	88%	45%	29%	19%	24%	39%
1983	46%	68%	32%	42%	89%	49%	36%	29%	33%	46%
1984*										
1ST QUARTER	38%	73%	33%	35%	85%	47%	41%	36%	38%	47%
2ND QUARTER	37%	56%	26%	22%	79%	40%	33%	28%	30%	39%
3RD QUARTER	36%	60%	30%	26%	82%	42%	28%	22%	25%	35%
4TH QUARTER	31%	61%	32%	33%	83%	41%	28%	22%	25%	40%
1985*										
1ST QUARTER	27%	60%	31%	30%	79%	38%	31%	24%	28%	36%
2ND QUARTER	29%	65%	38%	36%	84%	42%	27%	20%	24%	37%
3RD QUARTER	33%	63%	35%	25%	83%	42%	28%	20%	24%	37%
4TH QUARTER	32%	59%	33%	26%	81%	40%	27%	19%	23%	35%
1986*										
1ST QUARTER	37%	70%	41%	35%	86%	47%	32%	25%	28%	42%
2ND QUARTER	33%	56%	36%	31%	82%	41%	31%	22%	27%	37%
3RD QUARTER										
4TH QUARTER										

* SUBJECT TO REVISION.

** INCLUDES APPALACHIAN HARDWOOD AND ALL OTHER.

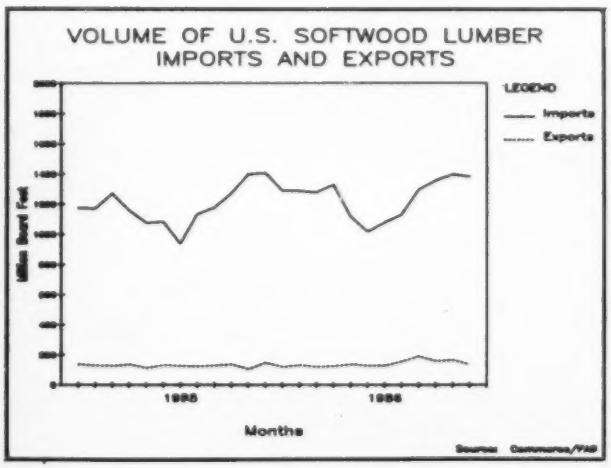
SOURCE: NATIONAL FOREST PRODUCTS ASSOCIATION

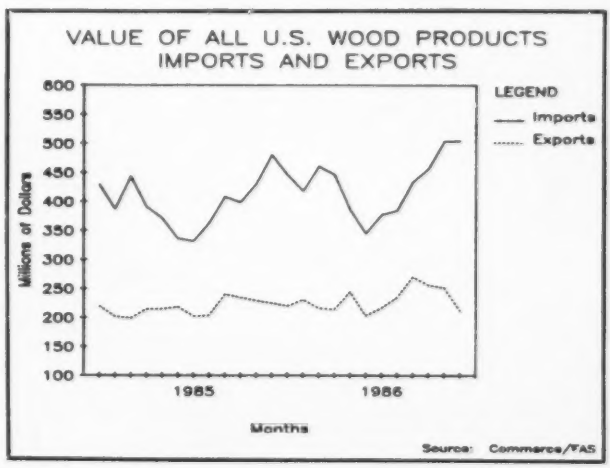
NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

INTERNATIONAL TRADE STATISTICS

		VOLUME				VALUE ($000)			
		June '86	6 mo. 1986	% Change From May '86	% Change From 6 mo. 1985	June '86	6 mo. 1986	% Change From May '86	% Change From 6 mo. 1985
EXPORTS									
SOFTWOOD LUMBER	MMBF	134.8	928.8	-18.5%	22.2%	48,509	309,502	-17.9%	23.6%
To Canada	MMBF	27.9	178.8	-9.2%	22.3%	7,033	44,245	-8.0%	19.5%
SOFTWOOD LOGS	MMBF	231.6	1,674.3	-13.6%	-9.8%	79,709	539,826	-11.5%	-7.2%
SOFTWOOD PLYWOOD	MMSF 3/8"	23.1	298.1	23.5%	74.7%	5,455	64,287	23.4%	61.6%
HARDWOOD LUMBER	MMBF	42.9	234.8	9.7%	17.4%	28,447	161,710	2.9%	30.3%
HARDWOOD LOGS	MMBF	6.3	65.4	-39.8%	-1.7%	5,455	60,430	-52.3%	8.4%
HARDWOOD VENEER	MMSFsurf	90.3	464.1	5.2%	21.4%	6,192	37,669	-18.6%	22.1%
PARTICLEBOARD	MMSF 3/4"	15.6	80.9	28.4%	51.3%	3,189	15,935	29.3%	48.7%
ALL OTHER		NA	NA	NA	NA	33,189	244,208	-30.1%	3.8%
TOTAL U.S. EXPORTS		NA	NA	NA	NA	211,085	1,439,085	-15.9%	7.9%
IMPORTS									
SOFTWOOD LUMBER	MMBF	1,379.0	7,627.2	-1.2%	4.3%	303,221	1,580,064	-0.8%	11.2%
From Canada	MMBF	1,364.9	7,563.5	-1.9%	4.0%	299,312	1,565,864	-1.6%	10.8%
SOFTWOOD LOGS	MMBF	4.8	20.0	36.2%	-43.1%	720	2,259	69.8%	-76.6%
SOFTWOOD PLYWOOD	MMSF 3/8"	13.4	69.3	-15.0%	62.3%	3,130	18,020	-20.9%	76.2%
HARDWOOD LUMBER	MMBF	27.7	184.5	-25.7%	-8.6%	14,767	86,573	-14.0%	-12.0%
HARDWOOD LOGS	MMBF	2.8	10.9	10.6%	24.9%	393	1,897	14.2%	6.3%
HARDWOOD VENEER	MMSFsurf	135.7	812.9	0.7%	22.2%	10,112	57,351	-3.0%	15.6%
HARDWOOD PLYWOOD	MMSF 3/8"	326.4	2,011.3	7.9%	9.6%	40,481	247,469	6.8%	5.8%
HARDBOARD	MMSFsurf	93.2	471.0	33.6%	33.1%	5,285	29,508	14.2%	11.8%
PARTICLEBOARD	MSF 3/4"	104.2	445.0	8.4%	-7.7%	13,979	71,212	5.9%	9.0%
ALL OTHER		NA	NA	NA	NA	111,616	563,832	2.3%	14.6%
TOTAL U.S. IMPORTS		NA	NA	NA	NA	504,239	2,660,129	0.1%	10.4%

Note: Volume total is not possible because the products are in different units of measure.
Note: Particleboard imports include OSB/Waferboard.





VALUE OF NEW CONSTRUCTION

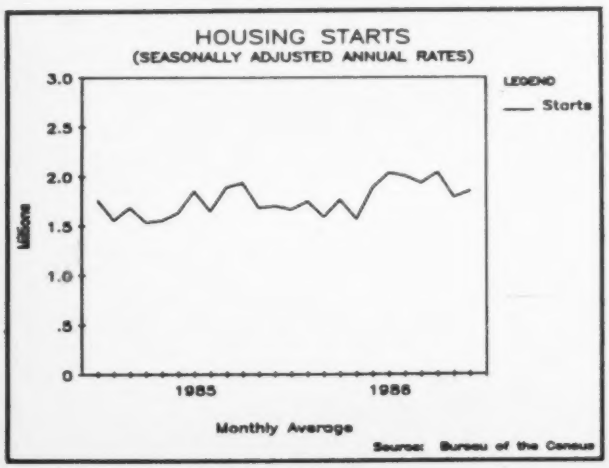
	CURRENT			YEAR-TO-DATE	
	Latest Month Available	% Change From		Latest Period Available	% Change From
	June '86	May '86	June '85	6 mo. '86	6 mo. '85
	(Billions of Dollars)				
VALUE OF ALL NEW CONSTRUCTION PUT-IN-PLACE	34.7	8.1%	9.8%	170.8	8.7%
Private	27.9	7.7%	9.1%	140.3	7.3%
Residential	16.9	12.7%	18.4%	77.4	12.5%
Nonresidential & Other	11.0	0.9%	-2.5%	62.9	1.5%
Public	6.7	9.8%	10.9%	30.3	14.9%

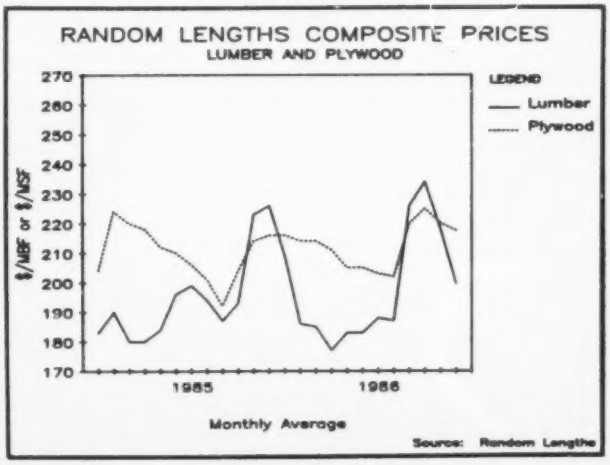
HOUSING STARTS

	June '86	May '86	June '85	6 mo. '86	6 mo. '85
	(Thousands of Units)				
NEW HOUSING UNITS STARTED					
Total Private & Public	183.8	-1.6%	12.5%	932.6	8.9%
New Private Starts	183.3	-1.8%	12.3%	931.9	9.0%
Seas. Adj. Annual Rate	1852	-0.1%	8.9%		
One-Family Housing Starts	125.0	-0.9%	22.9%	603.6	13.2%
Proportion of Total	68.0%			64.7%	
	(Number of Units)				
SHIPMENTS OF MOBILE HOMES	21,400	-4.9%	-14.7%	124,900	-11.8%

INDUSTRY EMPLOYMENT

EMPLOYMENT STATISTICS			
	June '86	% Change From May '86	% Change From June '85
	(Thousands of Employees)		
TOTAL EMPLOYMENT (Seasonally Adj.)			
All Industries	99,867	-0.1%	2.5%
All Manufacturing Industries	19,145	-0.3%	-1.3%
Lumber and Wood Products	721	0.3%	3.7%
Furniture and Fixtures	495	-0.2%	0.2%





Older plants have been updated with computers to perform process monitoring and control functions. In 1982, industry capital investments totaled $36 million.

Production costs as reported in the Census of Manufactures figures are detailed in Table II for 1977 and 1982. Raw material accounts for approximately 25 percent and adhesives 21 percent of the total.

Regulatory Environment

The regulation of products made using formaldehyde is the most important issue confronting producers of particleboard and MDF, as well as other pressed wood products which use formaldehyde based resins. The Consumer Products Safety Commission (CPSC), the Environmental Protection Agency (EPA) and the Occupational Health and Safety Administration (OSHA) are each considering the health risks associated with formaldehyde emissions from wood products. Any decision to significantly restrict formaldehyde emissions from wood products would severely impact the market for these products.

In an effort to address concerns about urea formaldehyde, the industry is moving toward adopting voluntary standards for permissible levels of formaldehyde emissions from its products. A level of 0.3 ppm for particleboard has been adopted and a level of 0.2 ppm for decorative paneling (usually made from hardwood plywood or hardboard) is being proposed, both as industry-wide standards. These levels are currently required by HUD (Department of Housing and Urban Development) for wood products used in manufactured housing. However, the industry is trying to adopt these standards for all production, not just that destined for manufactured housing. The hope is that CPSC and EPA will

Table II: Wood residues account for 25 percent of production costs for particleboard and MDF.

CENSUS OF MANUFACTURES HIGHLIGHTS

	1982		1977	
	$	% of Total	$	% of Total
PRODUCTION COSTS	537.4	100.0%	452.9	100.0%
Materials				
Wood	135.3	25.2%	80.4	17.8%
Adhesives	112.8	21.0%	106.5	23.5%
Other	86.4	16.1%	58.4	12.9%
Labor	99.8	18.6%	79.1	17.5%
Other	103.1	19.2%	128.5	28.4%
CAPITAL EXPENDITURES	36.0	NA	32.5	NA
VALUE OF SHIPMENTS	553.7	100.0%	476.5	100.0%
Floor Underlayment	93.8	16.9%	122.0	25.6%
Mobile Home Decking	45.5	8.2%	40.8	8.6%
Shelving	10.1	1.8%	22.2	4.7%
Door Core	26.3	4.7%	21.4	4.5%
Other Industrial Board:				
3/4 in. thick	128.3	23.2%	98.7	20.7%
5/8 in. thick	65.0	11.7%	33.2	7.0%
1/2 in. thick	28.8	5.2%	24.8	5.2%
All Other	110.7	20.0%	81.5	17.1%
Other	33.0	6.0%	18.5	3.9%

Note: Value of shipments reported by the Dept. of Commerce differs from that reported by the National Particleboard Association due to classification and other reporting differences.

Source: Dept. of Commerce, Bureau of 1977 and 1982 Census of Manufactures. National Particleboard Assoc.

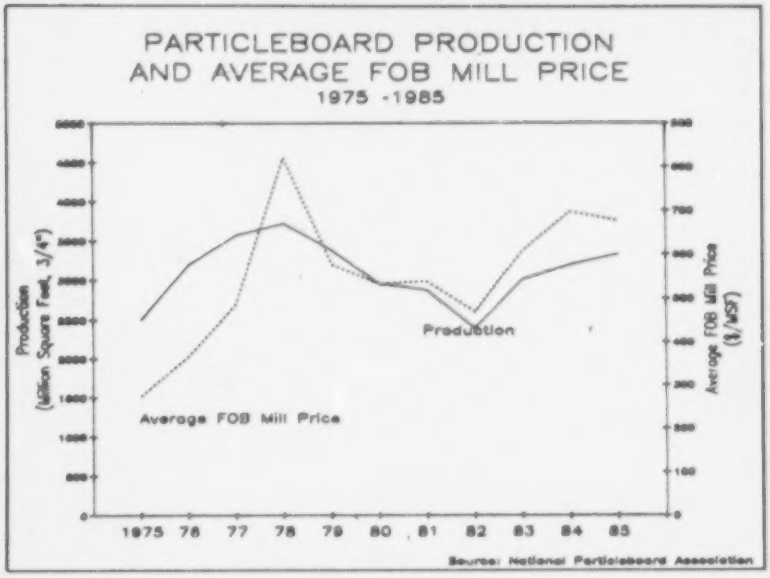


Figure 2: Particleboard production has been relatively stable since the 1970s.

decide that public health is being adequately protected by this effort.

Trade Picture

Imports of particleboard and MDF exceed exports by 22 percent, although they account for only 4 percent of U.S. consumption. In 1985, imports of particleboard and MDF amounted to an estimated 152 million square feet.

Precise statistics on particleboard and MDF imports have been elusive because the Department of Commerce classifies as particleboard other types of panel products, including waferboard and oriented strand board. The industry has been urging Commerce to change its classification procedures in order to separate structural from non-structural panel products in the trade statistics. NFPA estimates that approximately 80 percent of the material classified as particleboard by Customs is in fact waferboard and OSB.

Exports of particleboard and MDF have ranged from 95 to 119 million square feet in recent years. Major customer countries in 1985 include: Canada (49 MMSF), Taiwan (33 MMSF), Korea (16 MMSF), Mexico (12 MMSF) and Singapore (6 MMSF). Exports of particleboard during the first six months of 1986 were up 60 percent over last year.

The United States producers must compete with other world producers. Capacity in Europe is more than double that of the United States. Japan and Taiwan also are major producers in Asia. However, particleboard products produced in Asia tend to be of lower quality because of the inconsistency of the furnish, typically made up of a numerous variety of species. Hence, U.S. exports to Asia have fared relatively well.

U.S. exports to Asia, specifically to Taiwan and Singapore, may find their way back to the United States in imported furniture. However, statistics on the volume of U.S. particleboard in these imports are unavailable.

Outlook -- Bright This Year; Longer Term Cloudy

Shipments of particleboard were up seven percent and MDF were up 15 percent during the first six months of this year from the first six months of 1985. This will likely be the highest production year since 1978. Average industry F.O.B. mill prices have been very stable since 1980 on a constant dollar basis, with moderate decrease relative to the Consumer Price Index. The market for MDF has remained relatively firm, more so than particleboard or other wood products. A number of factors influence the outlook for these markets in the near and long term.

Raw Material. The availability of mill residues is often an important

limitation on the production potential of particleboard and MDF. The supply of mill residues can change, due to competitive forces and other factors including: use of residues by lumber mills for boiler fuel, changes in pulp mill demand, changes in sawmill technology or output and demand for wood fuels from commercial power plants or other wood energy users.

Regulatory. The continuing regulatory proceedings involving urea formaldehyde products also casts uncertainty on the market for particleboard and MDF. Should the use of urea formaldehyde in wood products be restricted, the market for pressed wood products could be severely changed. Price increases that would result from changing adhesives would impair the competitiveness of these products. According to an analysis by the National Particleboard Association, a prohibition on urea formaldehyde could result in added production costs of at least $600 million annually, while a complete ban on all formaldehyde resins would more than double that figure.

Furniture Imports. Imports of furniture limit the market for U.S. producers of particleboard and MDF. Manufactured from particleboard, these imports not only impact the U.S. furniture industry, but its particleboard and MDF suppliers as well. Imports of wood furniture increased 160 percent between 1980 and 1984, to $1.2 billion.

Canadian Production. The tremendous increase in Canadian production of lumber also has had an impact on the U.S. particleboard industry by providing a ready supply of residues to Canadian producers of particleboard. Hence, Canadian production of particleboard has grown from less than 384 million square feet in 1975 to 590 million square feet in 1985. Canadian exports of particleboard have doubled since 1980.

In Brief

Particleboard shipments will likely hover around the 3.2 billion square foot mark through the rest of this decade, ebbing and flowing with cycles of furniture demand and construction activity. Demand is growing for higher quality board geared toward the Do-It-Yourself market and for board which can tolerate extremely thin paper overlays. The recent downturn in the value of the U.S. dollar coupled with growing acceptance of higher quality material for furniture and overlay applications, bodes well for the U.S. industry. The MDF market should see rising demand, growing to a billion square feet by 1990 as that product is used more widely in the furniture and specialty markets.

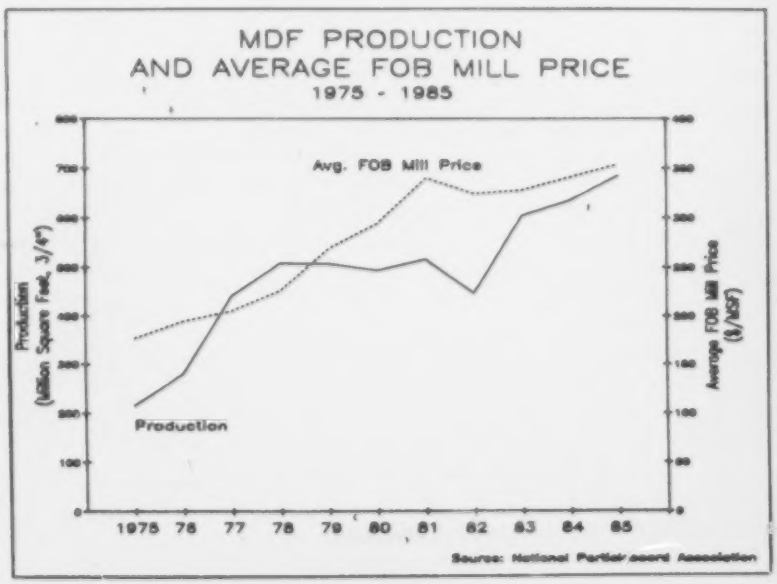

MDF PRODUCTION
AND AVERAGE FOB MILL PRICE
1975 - 1985
Avg. FOB Mill Price
Production
Production (Million Square Feet, 3/4")
Average FOB Mill Price ($/MSF)
1975 76 77 78 79 80 81 82 83 84 85
Source: National Particleboard Association

Figure 3: MDF production has been on the rise for the past several years.

U.S. LUMBER PRODUCTION BY STATE
1983 - 1985

	1985 Rank	TOTAL LUMBER			SOFTWOODS			HARDWOODS		
		1985	1984	1983	1985	1984	1983	1985	1984	1983
TOTAL U.S.		37,080	37,233	35,370	31,249	31,174	29,726	5,831	6,059	5,644
Oregon	1	7,251	7,242	6,632	7,211	7,202	6,579	40	40	53
Washington	2	3,558	3,836	3,951	3,419	3,697	3,821	139	139	130
California, Nevada	3	2,453	2,242	2,020	2,438	2,227	1,994	15	15	26
Georgia	4	2,141	2,260	2,206	2,099	2,192	2,033	160	166	228
Alabama	5	2,029	1,934	1,713	1,774	1,661	1,503	323	322	244
Mississippi	6	1,799	1,806	1,764	1,510	1,520	1,479	336	327	312
Idaho	7	1,676	1,687	1,660	1,676	1,686	1,657	0	1	3
North Carolina	8	1,594	1,516	1,645	1,268	1,161	1,293	354	370	367
Arkansas	9	1,546	1,585	1,511	1,374	1,440	1,308	228	198	230
Montana	10	1,445	1,387	1,316	1,445	1,387	1,316	0	0	0
South Caroilna	11	1,317	1,322	1,256	1,203	1,177	1,099	168	186	182
Texas	12	1,121	1,127	880	1,047	1,063	841	126	108	64
Virginia	13	928	930	883	489	498	511	404	407	359
Maine	14	841	843	969	773	767	844	103	104	142
Florida	15	715	715	637	735	720	636	26	31	23
Louisiana	16	601	660	763	506	520	646	111	149	129
Tennessee	17	537	554	375	148	139	119	341	374	239
Pennsylvania	18	481	475	453	16	15	17	398	408	400
Indiana	19	468	435	400	4	8	8	397	378	360
Wisconsin	20	436	409	335	81	84	83	307	292	234
West Virginia	21	382	425	306	6	6	8	322	371	274
Arizona	22	361	385	337	361	384	337	0	1	0
New York	23	328	366	390	78	95	92	218	245	277
Ohio	24	287	264	279	1	1	7	245	233	250
Kentucky	25	282	307	285	4	9	9	238	264	254
Michigan	26	242	265	254	34	27	25	180	213	211
Oklahoma	27	238	257	244	199	211	212	44	50	36
Missouri	28	223	235	178	15	13	15	179	197	150
South Dakota	29	219	192	178	219	192	178	0	0	0
New Mexico	30	185	172	191	185	172	191	0	0	0
Wyoming	31	182	174	171	182	173	171	0	1	0
Minnesota	32	171	169	201	68	61	66	92	99	126
New Hampshire	33	167	143	139	143	122	116	29	24	25
Del., Md.	34	143	154	118	69	64	61	67	83	54
Colorado	35	129	134	123	129	134	123	0	0	0
Alaska, Hawaii	36	129	149	161	139	157	167	0	0	0
Vermont	37	115	102	89	68	65	51	44	36	36
Massachusetts	38	80	98	103	45	46	50	33	48	50
Utah	39	73	67	55	73	67	55	0	0	0
Illinois	40	72	80	62	0	0	0	62	71	57
Conn., Rhode Is.	41	68	62	51	12	12	2	48	45	45
Iowa	42	35	29	51	1	0	1	29	26	46
Kansas, Neb.	43	23	28	23	1	1	5	18	24	17
New Jersey	44	8	12	11	1	1	0	6	10	10

Source: Dept. of Commerce; Western Wood Products Association; National Forest Products Association

LUMBER NUMBER REVISIONS

Periodically NFPA revises its national lumber statistics to conform with revisions received from regional association and/or the Department of Commerce. These revisions are designed to provide an accurate and consistent statistical series.

The above table details revised lumber production by state for the years 1983 through 1985.

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NFPA AN ECONOMICS BULLETIN OF THE FOREST PRODUCTS INDUSTRY

ECONOMICS MONTHLY

Volume II Number 9 September 1986

CHINA -- ONE BILLION PEOPLE, ONE BILLION DOLLAR POTENTIAL

China could become the single largest importer of American wood products within the next five years. So concludes a newly issued study commissioned by the National Forest Products Association with the sponsorship of the Department of Agriculture's Foreign Agricultural Service (FAS). The study, conducted by DBC Associates in Bejing, China, provides a comprehensive analysis of the Chinese wood market, resource conditions, distribution systems, and manufacturing structure.
The study quantifies what has been suspected for the past few years: that if a concerted, carefully formulated industry strategy were developed, U.S. producers could find a growing market for logs, lumber and panels in the People's Republic of China.

Background

China is a vast area characterized by an agrarian economy, massive population, limited natural resources and an all-pervasive political structure. The country is only slightly larger than the United States, but has five times as many people. The large population and a rapidly developing economy have created an enormous demand for housing and other construction. Rapid growth has been accommodated through significant economic reforms under the current leader, Deng Xiaoping, but China is not moving toward capitalism. It is a socialist country with a totalitarian government, run under mandatory planning in all industrial sectors. The State, through the Central Committee, sets wages and production quotas, controls distribution and sets prices.

Economic reforms during the early 1980's introduced incentives geared toward increasing production in the industrial as well as agricultural sectors. The changes were all too successful, the resulting rapid growth causing instability in the economic/political system. Hence, the central Committee reasserted state controls in many areas that had been allowed to operate more independently. The reforms have not resulted in a large free market readily accessible to U.S. producers, although China's developing economy has created enormous demand which can only be met by imports to the country.

Timber Resources

Forestland in China covers roughly 99 million hectares (227 million acres), or 12 percent of the total land area. Seventy-three percent of the forestland can be considered commercial; that is, available to supply industrial roundwood. However, most of the forestland is located in remote areas of the Northeast and Southwestern regions. Accessible forests are generally poorly stocked and over-exploited.

Currently, annual harvests, estimated to be on the order of 64

MONTHLY STATISTICAL HIGHLIGHTS

Costs of energy to industrial consumers fell during the second quarter, 1986. The average cost nationwide for natural gas declined by 16 percent; purchase electricity by 1.4 percent.

Shipments of structural panels during the first seven months of 1986 were up 14.3 percent.

U.S. consumption of softwood lumber is continuing to set records, up 8.5 percent during the first seven months of the year.

Softwood log exports are down 13 percent this year, primarily because of fewer shipments to China.

Imports of hardboard were up nearly 30 percent during the first seven months.

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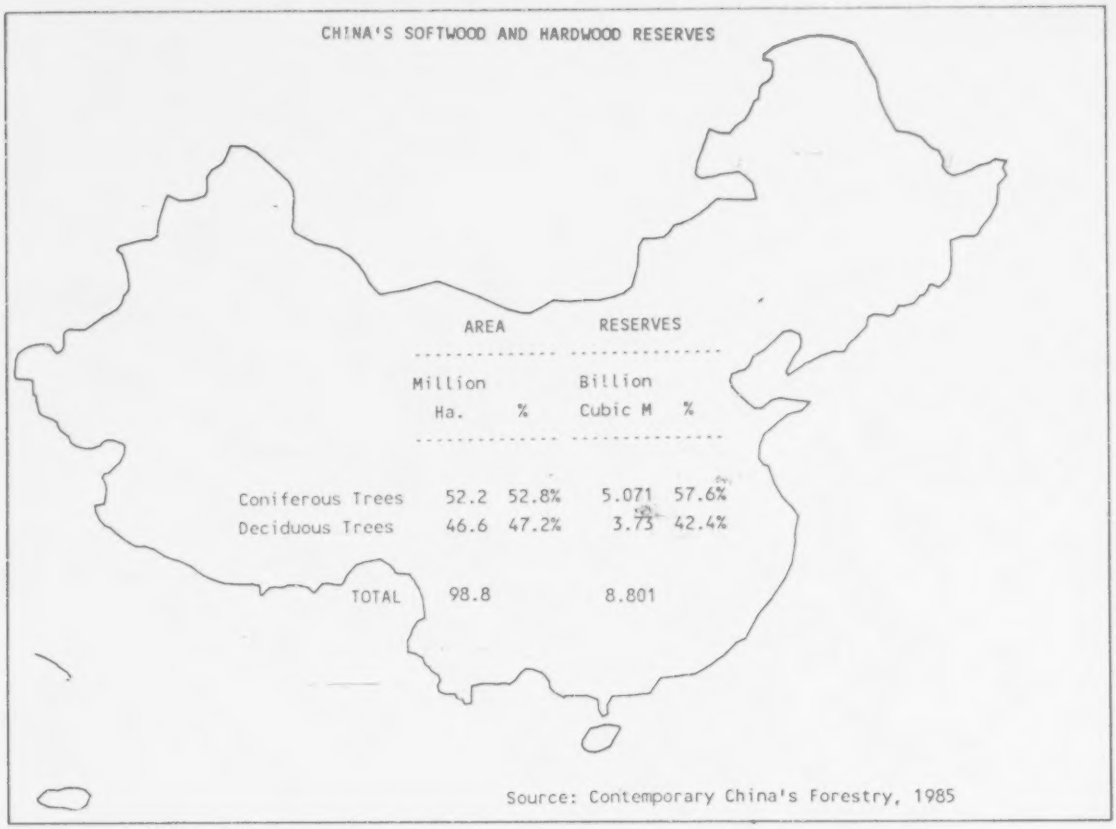


Figure 1: Only 12 percent of China's vast land area is forested; 58 percent is of coniferous species.

billion board feet (290 million m^3), appear to exceed annual growth by a worrisome 32 percent. In some provinces, removals exceed growth by even larger percentages. The proportion of softwoods in the inventory has also been steadily declining, from about 70 percent in 1965 to 58 percent in 1984 (Figure 1). It is important to note that there is timber harvested within the context of State plans and there is timber that is harvested outside of the authorized program. Less than a quarter of the harvest is for planned consumption in State-approved projects (14.7 billion board feet or 67 million m^3). The balance is cut for firewood, agricultural applications, and peasant home construction. Much of the harvest goes unreported; much is lost through fires and logging inefficiencies (Figure 2).

At the current rate of exploitation, the Chinese may well run out of timber by the turn of the century, or shortly thereafter. To prevent a timber famine, the Ministry of Forestry has been charged with an ambitious afforestation program. The program has successfully increased the land devoted to forests during the past decade, but not enough to meet anticipated future needs. The forest plan is to increase forest cover to 20 percent of the total land base by the year 2000 and follow a nondeclining, even flow, sustained yield management policy. But, illegal logging hinders these objectives.

The State has made significant changes in its forest and wood policies during the past few years. For example, Marxist philosophy places no economic value on natural

resources until labor is added. Therefore, standing trees don't have any economic value until harvested and processed. In China, this has resulted in over-exploitation of the forests, particularly in the rural cooperatives, as timber has been viewed as a free commodity. Reforms in the early 1980's brought a revamping of this system. Standing trees are now valued economically, reflecting to some extent their replacement value. Inclusion of raw material costs in the final sales prices of wood products is now also encouraged.

Local timber collectives are now permitted to sell logs to processors under negotiated contracts, albeit within ceilings established by the central government. The hope is that the limited incentives for profit that exist under this new decentralized system will encourage more forest management. The State has also granted land rights to peasants in certain areas provided they afforest the land. A Forest Law enacted in 1984 and amended again in 1986 attempts to bring a greater degree of planning into harvesting and consumption activity. It restricts cutting and provides severe penalties for illegal felling. Needless to say, enforcement has been difficult.

China has a goal of producing over 22 billion board feet (100 million m^3) of timber inside the Plan by the year 2000, nearly double its current production rates. Because of the host of problems associated with the country's domestic resources, it is highly unlikely this goal will be realized.

The official policy of the government discourages the use of wood products in order to preserve domestic timber supplies. Use of concrete, plastics, steel and cardboard are encouraged where wood might otherwise be utilized. But numerous problems have arisen through this policy and most end-users question its effectiveness.

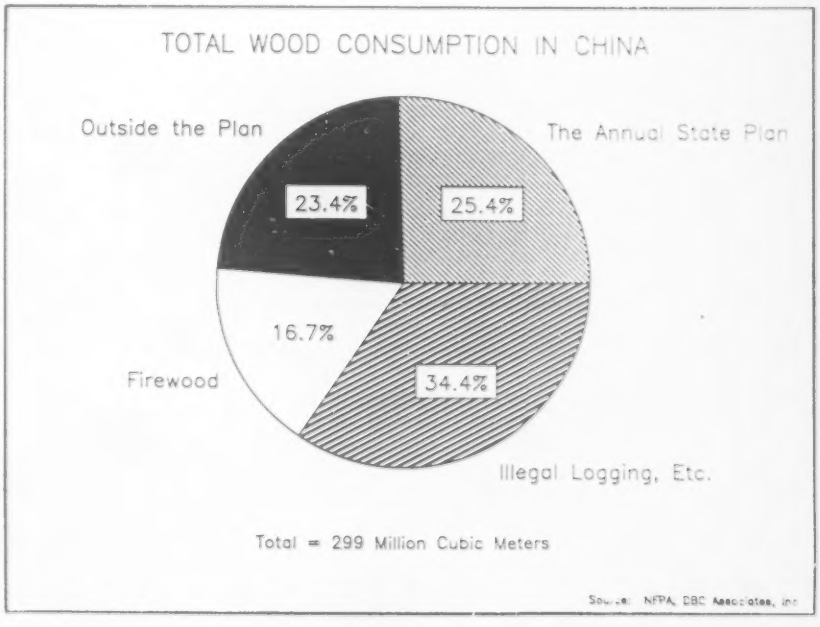
China's Wood Industry

The Chinese wood products industry is dominated by small sawmills. About 155 mills are operated by the Ministry of Forestry, another 500 - 700 mills are operated by other ministries, provincial or municipal entities including Timber Supply Corporations. Thousands of other small sawmills dot the country. The mills are generally poorly designed and inefficient. Refurbishment and new construction of sawmills does not appear to be a priority in State planning.

Elements of Demand

Consumption of wood products in China can be grouped into four categories: (1) consumption inside the State Plan; (2) consumption outside the Plan; (3) firewood; and (4) miscellaneous uses and losses.

Consumption inside the State plan includes that which is procured



CONSUMPTION OF STATE PLANNED DOMESTIC WOOD
BY MARKET SECTOR

Market Sector	%	Quantity (Million Cubic M) 1981	1984	1985
Capital Construction	20.2%	10.0	12.9	13.5
--Doors, Windows (50%)				
--Concrete Forming (45%)				
--Scaffolding (5%)				
Mining Props	13.6%	6.7	8.7	9.1
Packaging	10.1%	5.0	6.4	6.7
Fuelwood	8.1%	4.0	5.2	5.4
Paper	7.5%	3.7	4.8	5.1
Furniture	4.7%	2.3	3.0	3.1
Agricultural Uses	3.4%	1.7	2.2	2.3
Rolling Stock	3.0%	1.5	1.9	2.0
Plywood	1.4%	0.7	1.0	1.0
Railroad Ties	1.0%	0.5	0.7	0.7
Utility Poles	1.0%	0.5	0.7	0.7
Posts	0.8%	0.4	0.5	0.5
Thinning of Forests	5.9%	2.9	4.0	4.2
Other	19.2%	9.5	11.8	12.7
TOTAL	100.0%	49.4	63.8	67.0

Source: Min. of Forestry, Forestry Economics Research Agency

Table 1: Capital construction applications are different than what is encountered in the U.S.

by the ministries, industrial enterprises, and urban construction authorities. In all cases, the the Ministry of Forestry is the domestic supplier; distribution is handled through the China Timber Corporation and the Provincial timber corporations. Supplies of wood to all processors and end-users are approved by the State in accordance with needs set forth by Provincial and State planning Commissions. Table 1 outlines consumption of lumber within the state plan, by market sector.

Consumption outside the Plan is permissible by collectives and individuals, provided the harvest does not exceed growth. Local forestry bureaus are responsible for enforcement. Timber harvested by collectives and individuals can be sold to the State to meet its supply requirements, but most is used by peasants and collectives for housing, rural construction, furniture and so forth.

A large amount of roundwood is burned for fuel each year. This use is approved, but not policed. The equivalent of 24 million cords (50 million m^3) of wood is believed to be burned annually. Finally, a dramatic amount of wood -- estimated at 23 billion board feet (103 million m^3) -- is consumed illegally or is wasted through destruction or inefficiencies.

Wood consumption has paralleled the rise of the Chinese equivalent to the Gross National Product, referred to as the Gross Value of Industrial and Agricultural Output (GVIAO). As this measure has grown from 224 million renmimbi (RMB) in 1965 to 1,327 RMB in 1985, planned wood consumption has nearly doubled from 9 billion board feet (41 million m^3) to 17 billion board feet (76 million m^3), including imports (Figure 3). Wood consumption per unit of the GVIAO, however, has declined. China's planners have determined that the minimum level of roundwood consumption needed to meet economic objectives is .08 million m^3 per billion RMB of growth. This is about the current level. At the same time they have determined that wood consumption should drop to .056 million m^3 per billion RMB in order to conserve domestic resources. Presumably, the difference is to be made up by imports.

Even using the most conservative estimate of wood use leads to the

conclusion that the growth in wood demand under the State Plan during the next twenty years will be dramatic. It is projected to increase from 15 billion board feet (70 million m^3) to 40 billion board feet (180 million m^3) by the year 2000. Even if planned consumption should fall short of that projection, the need for increased imports is anticipated (Figure 4). China's planners believe that at least 13 percent of planned consumption will consist of imports. This is probably unrealistically low since imports currently account for 12 percent of consumption.

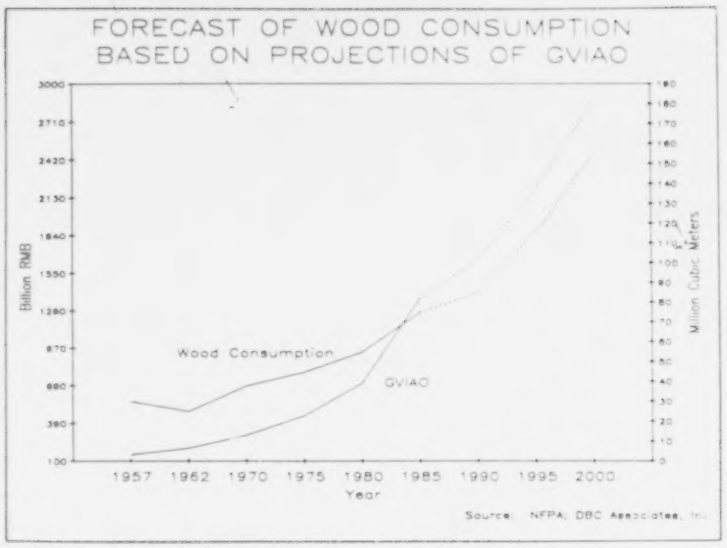


Figure 4:
Wood consumption is expected to grow dramatically even under the most conservative scenarios.

More Converted Products Likely

The maximum annual sawmilling capacity in China today is estimated to be only 25 million m^3 (10.5 billion board feet lumber tally). With refurbishment and new construction, this capacity could increase to 30 million m^3 (12.5 billion board feet) by 1990. This capacity is not likely to be exceeded because there are no existing plans to improve sawmilling capacity or to make other investments in existing mills. And no growth in the rate of lumber production is planned for the next five years. Moreover, the lion's share of the sawmilling capacity is located in the coastal provinces where few opportunities exist for expansion. Imported logs can be converted at these sites, but as the capacity is exceeded, imported lumber will be in demand. Therefore, the study concludes that U.S. lumber could account for as much as 1.2 billion board feet (2.8 billion m^3) by the year 2000. Furthermore, with an aggressive marketing strategy in place, the U.S. could capture 55 percent of total lumber imports.

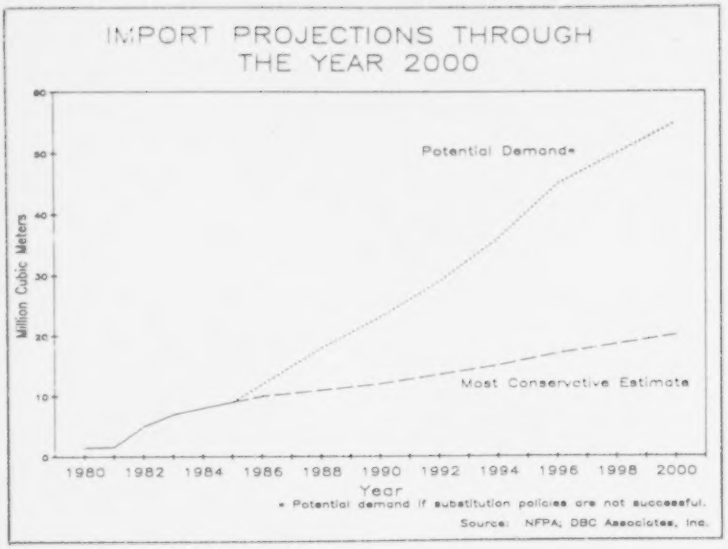
The U.S. faces stiff competition with the USSR, Canada and Chile in supplying the Chinese market. During the first seven months of 1986, U.S. exports to China were down 38 percent. This is attributable to a shortage of foreign exchange and increases of imports from the other countries.

China first began importing softwood lumber in 1981. Although the volume was small, 63 million board feet, the U.S. supplied 55 percent. In 1985, total lumber imports represented 122 million board feet, but the U.S. share declined to 14 percent; Canada has become the major supplier of lumber to China.

The major competitors for the U.S. in supplying plywood are Indonesia, the Philippines and Taiwan. The Chinese import most of their plywood from Indonesia. Although of low quality and strength, the imported plywood appears sufficient for the Chinese furniture industry. Plywood has not yet found a foothold in construction. Only a small amount of softwood plywood is currently being imported.

China's Import Policy

China's import decisions are largely political, motivated by the need to supply the materials for modernization in industry and agriculture, and to slow depletion of



domestic reserves of timber. China imports wood for four basic reasons:

- to make up for the domestic shortage of wood;
- to obtain large size and high quality wood;
- to balance the available species;
- to supply improved exporting enterprises.

All imports of wood must be approved by the State Planning Commission and must conform to national priorities in the State Plan. User demand is of little importance when import decisions are made, and is insignificant relative to State development priorities.

State policy dictates that reserves of foreign exchange be used judiciously, so barter trade is preferred to expenditures whenever possible. The primary factor determining source of imports is price.

All requisitions to import wood products from North America must be consolidated under the China Timber Import Export Corporation (CTIEC) for purchase approval. But requisitions to purchase Southeast Asian wood by local Timber Corporations need approval only from the local Timber Import Export Corporations. These purchases do not require approval from the national body.

The Competition

Because of its proximity, the U.S.S.R. can be a major supplier of roundwood to China. In fact, unconfirmed reports of an agreement on timber trade between the two countries have circulated. Since the agreement would provide for barter trade of unspecified commodities, it would require no use of foreign exchange. The purported agreement would seek to increase Soviet imports of softwood roundwood to 10 million m^3 per year, a 500 percent increase from current levels. Most sources doubt this can be accomplished. In 1985, the U.S.S.R was contracted to supply 2.2 million m^3 (924 million BF); only 1.8 million m^3 (756 million BF) was actually imported. The Chinese have considered sending their own crews into the U.S.S.R. to harvest timber, but currently this is not a likely prospect.

Canada probably represents the major competitor for the U.S. in China. Canada has increased its exports of softwood lumber to China, accounting for over 85 percent of the import demand. China and Canada have embarked on a number of agreements to improve their trade relationship in recent years, and the Canadian wood products industry has been aggressively marketing in the country. Finally, Chile is supplying about 7 percent of China's imports of roundwood.

As of July 1986, CTIEC hadn't placed any orders for U.S. logs or lumber in over six months. This can be attributed to the $14 billion

deficit incurred in 1985 and hence shortage of foreign currency. Imports are now mostly through countertrade agreements, made mostly with the USSR and possibly Chile and Canada. Unless the economy improves in 1987, imports from the U.S. will remain depressed. Wood will be supplied by parties open to creative trade deals.

Tariffs are imposed on wood imports to a varying degree, depending upon the level of conversion. They range from 3 percent for rough sawn logs and cants, to 9 percent for lumber, to 40 percent if tongue-and-grooved or otherwise finished. Most veneers and plywood have tariffs of 20 - 30 percent. The tariffs are geared to encourage importation of raw material rather than finished goods, thereby adding the value domestically. In addition, unpublished tariffs are also applied to a plethora of products including wood products. These product taxes imposed by the Ministry of Finance average about 10 percent. Coupled with the published rates, these taxes make the total tariff obligation among the highest in Asia--higher even than in Japan.

Market Opportunities

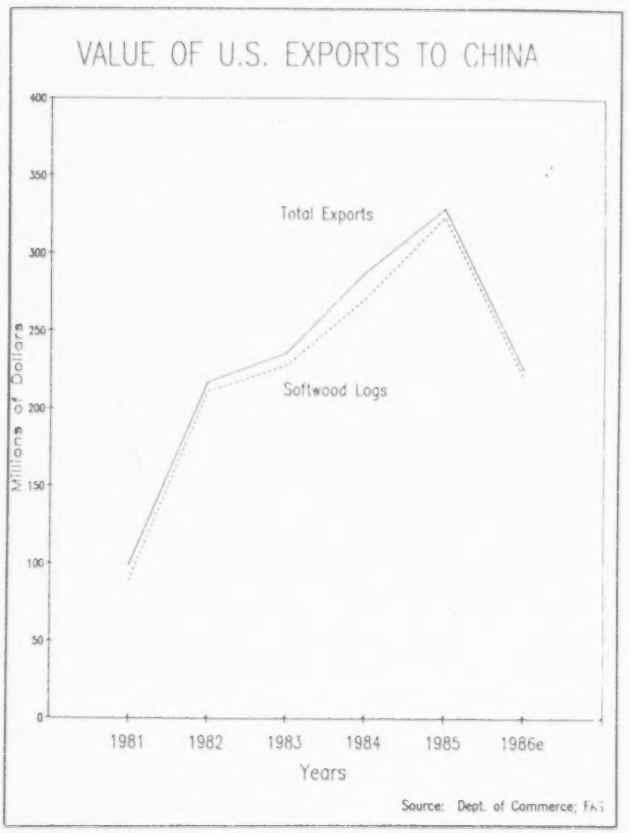
There is little doubt that the Chinese appetite for wood is huge. The primary market remains in the priority areas of China's economic development: capital construction, defense, industrial uses, and transportation. Wood usage patterns differ from the United States and other countries. Construction uses of wood do not tend to be in framing, but in window and door construction, and concrete forming. Scaffolding also is made of lumber. Mining props and packaging account for the next two largest categories of consumption. Most construction is of concrete frame and brick.

Chinese peasant housing utilizes wood in floors, doors and roof structures. This is a vast potential market as peasant homes are being built at the rate of 9-10 million per year.

U.S. Exports to China

China has been the fastest growing customer for U.S. wood products exports. Exports to China have increased from nearly zero in 1979 to over $328 million in 1985, comprised almost entirely of softwood logs, with small volumes of lumber and other products. Exports have fallen dramatically this year in response to the retrenchment by China's leaders (Figure 5). Foreign exchange has been in short supply and, therefore, unavailable for import purchases. This is not believed to be indicative of future trends.

Figure 5:
Purchases from the U.S. have declined this year due to a shortage of foreign exchange.



U.S. Industry Efforts

The NFPA study recommends a three-pronged marketing strategy for U.S. industry, with over 20 specific actions. Success in furthering exports to the People's Republic of China will require working within the highly bureaucratic and politically motivated Chinese system. Three overall objectives were identified in the study.

First, bring about the removal of tariff and nontariff barriers to the importation of softwood lumber and plywood.

The U.S. industry must seek lower tariffs, particularly for finished products, in part by demonstrating the importance of importing these products in meeting State objectives. By educating the Chinese about uses and qualities of U.S. products, we can attempt to influence the use of wood in more applications and showing the economic and quality advantages of U.S. products.

Second, target geographic and product markets for acceptance and development of converted products.

This includes developing and promoting sizes and standards currently acceptable to the Chinese. Efforts to this end will be most successful if it can be shown to provinces and collectives that imports of converted products can mean higher profits under China's limited plan for profit potential.

And third, influence wood product acceptance through cooperative technical efforts.

The current lack of product standards and the need for technical assistance provides an opportunity to introduce the Chinese to U.S. sizes, grades, codes, designs and engineered structures. Once again, it is critical to work within the Chinese system. For example, building designs should incorporate indigenous materials as well as imported products.

A Special Challenge

The nature of the Chinese market requires a unified, coordinated long range approach, involving both the U.S. government and the entire spectrum of forest-related industries. NFPA is therefore proposing that a U.S. forest products industry office be established in Bejing to assist the Chinese and provide a direct contact for U.S. producers interested in the Chinese market.

Inroads into China will not come easily or quickly for U.S. industry. Because of the inherently political nature of China's government, time must be taken to build and maintain relationships, the quality and honesty of any relationships being critical. By being patient and adaptive to the Chinese market, the U.S. wood products industry can look forward to a mutually profitable and long term trade relationship.

Copies of the NFPA Study

Copies of the complete NFPA China study are available and free to members of NFPA's International Trade Council. Non-members may obtain copies for $80 (U.S.) or $200 (overseas and Canada). For information contact: Kathleen Mullen (International Trade Council) 202/463-2722. If you would like to order a copy of the study, contact Renee Browne (NFPA Publications Department) 202/463-2733.

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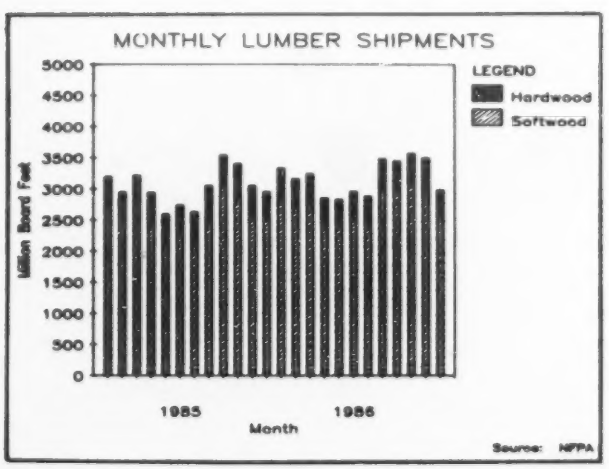
ECONOMICS MONTHLY

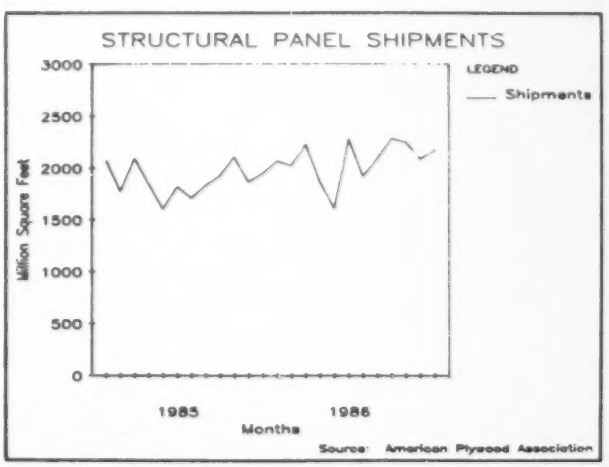
MONTHLY STATISTICAL SUPPLEMENT

Issued: September 1986

ESTIMATED INDUSTRY TOTALS BY PRODUCING REGION

	JUL. 1986			JULY 31, 1986	
	Production	Shipments	Orders Received	Unfilled Orders	Gross Stocks
SOFTWOOD LUMBER		(Million Board Feet)			
Southern Pine Region	798	822	845	726	1,874
Douglas Fir Region	572	580	650	522	805
Western Pine Region	872	859	869	467	1,273
California Redwood Region	162	167	150	101	371
Other Softwoods	123	124	128	250	292
TOTAL SOFTWOODS	2,527	2,552	2,642	2,066	4,615
% Change - June 1986	-11.6%	-15.4%	-12.5%	4.6%	-0.5%
% Change - July 1985	-3.3%	0.0%	1.9%	3.6%	-1.7%
HARDWOOD LUMBER					
Southern Hardwood Region	210	207	203	269	877
Appalachian Hardwood Reg.	44	43	43	*	*
Other Hardwoods	180	177	174	197	901
TOTAL HARDWOODS	434	427	420	466	1,778
% Change - June 1986	-26.6%	-25.7%	-25.5%	-1.5%	0.4%
% Change - July 1985	-11.8%	-3.6%	-13.0%	11.0%	5.8%
TOTAL LUMBER	2,961	2,979	3,062	2,532	6,393
% Change - June 1986	-14.2%	-17.1%	-14.5%	3.4%	-0.3%
% Change - July 1985	-4.6%	-0.5%	-0.4%	4.8%	2.1%
* Included in Other Hardwoods					
FLOORING		(Thousand Feet)			
Oak Flooring (Bd. Ft.)	NA	11,255	NA	8,773	4,103
Maple Flooring (Sq. Ft.)	728	1,577	1,593	4,090	1,816
STRUCTURAL PANELS	2,167,098	2,175,117	2,126,278	779,405	404,000
% Change - June 1986	6.9%	4.4%	-4.3%	-5.9%	-1.2%
% Change - July 1985	10.8%	11.8%	9.1%	110.6%	11.2%





YEAR-TO-DATE INDICATORS

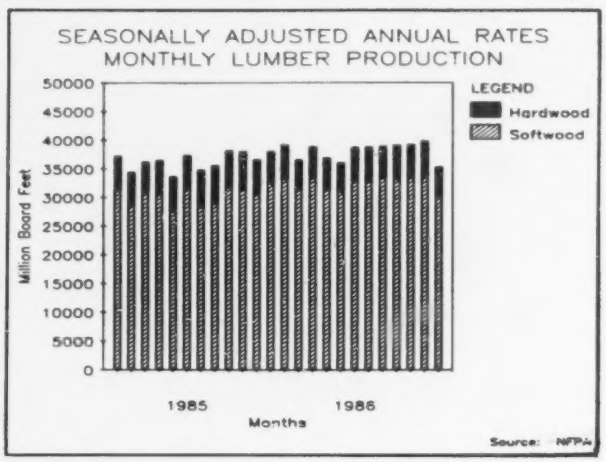
	PRODUCTION		SHIPMENTS		ORDERS RECEIVED	
	Latest Period Available	% Change	Latest Period Available	% Change	Latest Period Available	% Change
	7 mos.'86	7 mos.'85	7 mos.'86	7 mos.'85	7 mos.'86	7 mos.'85
	(Million Board Feet)					
TOTAL LUMBER	23,063	6.2%	23,154	7.7%	23,311	7.7%
TOTAL SOFTWOOD	19,563	8.4%	19,713	9.9%	19,796	9.6%
TOTAL HARDWOOD	3,500	-4.7%	3,441	-3.1%	3,515	-1.9%
	(Million Square Feet)					
STRUCTURAL PANELS	15,117	13.6%	15,065	14.3%	14,915	12.3%

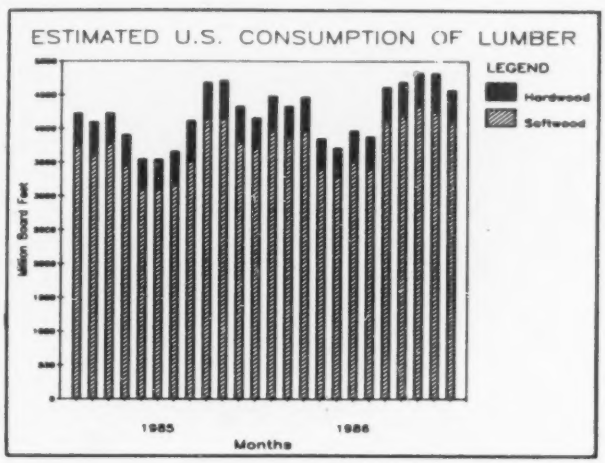
SEASONALLY ADJUSTED ANNUAL RATES

	PRODUCTION			SHIPMENTS		
		---% Change From--			---% Change From--	
LUMBER REGION	July '86	June '86	July '85	July '86	June '86	July '85
	(Million Board Feet)			(Million Board Feet)		
Southern Pine	9,184	-19.6%	-18.3%	9,419	-17.4%	-12.3%
Douglas Fir	7,176	-13.3%	-12.5%	7,351	-14.7%	-3.7%
Western Pine	10,370	-4.5%	5.0%	10,190	-6.1%	11.3%
Calif. Redwood	1,994	6.0%	5.4%	1,859	4.0%	4.3%
Other Softwoods	1,460	-11.0%	-6.6%	1,476	-13.1%	-2.8%
TOTAL SOFTWOODS	30,184	-11.4%	-7.9%	30,295	-11.8%	-1.7%
TOTAL HARDWOODS	5,109	-24.9%	-11.1%	5,335	-20.0%	-3.9%
TOTAL LUMBER	35,293	-13.7%	-8.4%	35,629	-13.2%	-2.1%

DOMESTIC LUMBER CONSUMPTION

	CURRENT			YEAR-TO-DATE	
	Latest Month Available	----% Change From----		Latest Period Available	% Change From
	July '86	June '86	July '85	7 mos.'86	7 mos.'85
	(Million Board Feet)				
Total Consumption	4,393	-8.9%	5.5%	31,220	6.9%
Softwood Consumption	3,978	-6.7%	6.9%	27,837	8.5%
Hardwood Consumption	416	-25.8%	-6.3%	3,383	-4.9%

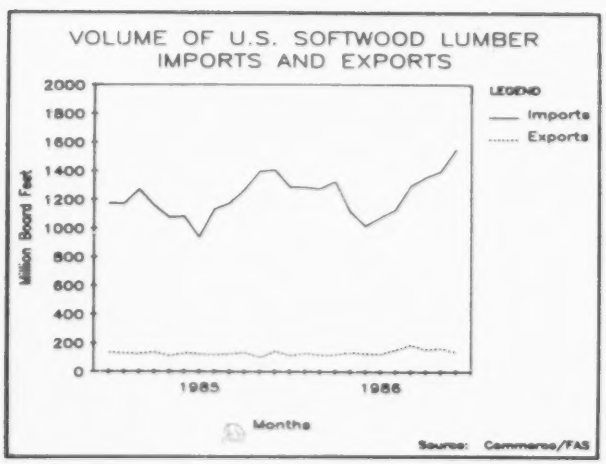


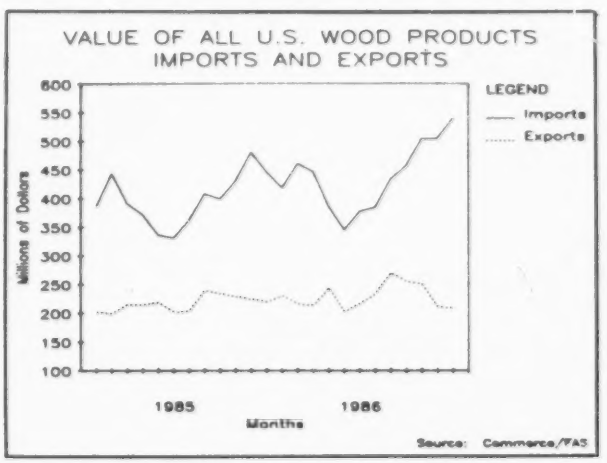


INTERNATIONAL TRADE STATISTICS

		VOLUME				VALUE			
		July '86	7 mo. 1986	% Change From June '86	% Change From 7 mo. 1985	July '86	7 mo. 1986	% Change From June '86	% Change From 7 mo. 1985
EXPORTS									
SOFTWOOD LUMBER	MMBF	138.2	1,066.9	2.5%	21.6%	45,340	354,838	-6.5%	22.8%
To Canada	MMBF	29.8	208.6	6.9%	20.7%	7,320	51,572	4.1%	18.7%
SOFTWOOD LOGS	MMBF	223.9	1,898.2	-3.3%	-13.0%	73,569	613,396	-7.7%	-10.7%
SOFTWOOD PLYWOOD	MMSF 3/8"	34.4	332.6	49.0%	76.1%	7,560	71,847	38.6%	62.3%
HARDWOOD LUMBER	MMBF	38.5	273.3	-10.1%	19.8%	26,211	187,922	-7.9%	32.3%
HARDWOOD LOGS	MMBF	5.0	70.3	-20.8%	-10.1%	4,519	64,948	-17.2%	3.2%
HARDWOOD VENEER	MMSFsurf	111.0	575.1	22.9%	28.1%	6,676	44,345	7.8%	23.4%
PARTICLEBOARD	MMSF 3/4"	12.4	93.3	-20.9%	52.8%	2,534	18,469	-20.5%	48.5%
ALL OTHER		NA	NA	NA	NA	40,969	285,177	23.4%	4.0%
TOTAL U.S. EXPORTS		NA	NA	NA	NA	208,691	1,647,775	-1.1%	6.0%
IMPORTS									
SOFTWOOD LUMBER	MMBF	1,564.1	9,191.2	13.4%	6.9%	334,349	1,914,408	10.3%	13.2%
From Canada	MMBF	1,549.5	9,113.0	13.5%	6.5%	330,875	1,896,739	10.5%	12.7%
SOFTWOOD LOGS	MMBF	5.6	25.6	16.2%	-28.5%	692	2,950	-3.9%	-70.3%
SOFTWOOD PLYWOOD	MMSF 3/8"	10.0	79.4	-25.3%	63.3%	2,727	20,747	-12.9%	70.9%
HARDWOOD LUMBER	MMBF	27.5	212.0	-1.0%	-8.0%	13,858	100,433	-6.2%	-12.4%
HARDWOOD LOGS	MMBF	2.9	13.8	2.8%	15.3%	527	2,424	34.1%	10.3%
HARDWOOD VENEER	MMSFsurf	138.5	951.4	2.1%	16.9%	9,898	67,248	-2.1%	14.2%
HARDWOOD PLYWOOD	MMSF 3/8"	319.1	2,330.4	-2.2%	9.5%	39,315	286,784	-2.9%	6.6%
HARDBOARD	MMSFsurf	72.8	543.9	-21.9%	29.9%	4,974	34,482	-5.9%	13.1%
PARTICLEBOARD	MSF 3/4"	105.7	641.0	1.5%	12.9%	14,756	85,969	5.6%	12.0%
ALL OTHER		NA	NA	NA	NA	118,028	681,860	5.7%	16.0%
TOTAL U.S. IMPORTS		NA	NA	NA	NA	539,415	3,199,544	7.0%	12.1%

Note: Volume total is not possible because the products are in different units of measure.
Note: Particleboard imports include OSB/Waferboard.





VALUE OF NEW CONSTRUCTION

	CURRENT			YEAR-TO-DATE	
	Latest Month Available	% Change From		Latest Period Available	% Change From
	July '86	June '86	July '85	7 mo. '86	7 mo. '85
	(Billions of Dollars)				
VALUE OF ALL NEW CONSTRUCTION PUT-IN-PLACE	34.6	0.0%	10.2%	205.2	8.8%
Private	27.5	-1.4%	10.3%	167.8	7.8%
Residential	16.3	-2.4%	19.6%	93.5	13.4%
Nonresidential & Other	11.2	0.0%	-0.9%	74.3	1.4%
Public	7.2	7.5%	11.5%	37.4	13.8%

HOUSING STARTS

	July '86	June '86	July '85	7 mo. '86	7 mo. '85
	(Thousands of Units)				
NEW HOUSING UNITS STARTED					
Total Private & Public	175.6	-4.4%	9.1%	1,108.0	8.9%
New Private Starts	175.4	-4.5%	9.1%	1,107.6	9.0%
Seas. Adj. Annual Rate	1815	-2.0%	9.1%		
One-Family Housing Starts	116.2	-7.0%	10.0%	719.7	12.7%
Proportion of Total	66.2%			65.0%	
	(Number of Units)				
SHIPMENTS OF MOBILE HOMES	20,300	-5.1%	-16.5%	145,200	-12.5%

INDUSTRY EMPLOYMENT

	July '86	% Change From June '86	% Change From July '85
	(Thousands of Employees)		
TOTAL EMPLOYMENT (Seasonally Adj.)			
All Industries	100,122	0.3%	2.5%
All Manufacturing Industries	19,116	-0.1%	-1.2%
Lumber and Wood Products	720	-0.1%	3.3%
Furniture and Fixtures	498	0.4%	0.8%